Civil Service Journal

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DEPARTMENTS:
A LOOK AT LEGISLATION, LEGAL DECISIONS, THE AWARDS STORY, TRAINING DIGEST, EMPLOYMENT FOCUS, AND QUOTABLE

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UNITED STATES CIVIL SERVICE COMMISSION

Civil Service
Journal

Volume 3 Number 2

October–December 1962

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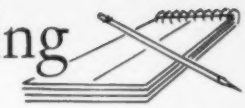
U.S. Civil Service Commission

JOHN W. MACY, Jr. ..... *Chairman*
FREDERICK J. LAWTON .. *Commissioner*
ROBERT E. HAMPTON .... *Commissioner*
WARREN B. IRONS .... *Executive Director*

Worth Noting



PRESIDENT KENNEDY has signed into law the Federal Salary Reform Act of 1962 (for details, see *A Look at Legislation,* p. 12). With his approval of the act, the President called on heads of Federal agencies to make maximum use of personnel assigned and to limit the number of Federal employees to the absolute minimum necessary to get the public business done. To strengthen the Government's manpower control program, the President has directed that detailed employment plans as well as expenditure plans will be submitted by each agency in connection with the annual budget review. Such plans will be expected to reflect increases in employee productivity, he said, "that is, it is to be expected that the same amount of work will be performed by increasingly fewer people, and the number of employees will not increase proportionately with increases in programs."

FIRST YEAR ACTIVITIES of 10 Federal Executive Boards have been reported to the President by CSC Chairman John W. Macy, Jr. Creation of the Boards has resulted in better communications between Washington and field managers, Mr. Macy reported. He said the Boards are forming plans for pooling experience and resources to achieve increased management effectiveness, and they are making surveys of available resources in the Federal communities to identify printing services, transportation equipment, medical facilities, and office supplies which could be utilized more economically across agency lines. President Kennedy expressed his "continuing personal interest in this important work," adding: "I would expect that through different experiences in cooperative planning and action, management benefits may be gained by individual Boards and shared by others thereby increasing the total effectiveness of Federal operations."

EIGHTIETH ANNIVERSARY of the Civil Service Act will be observed nationally in January 1963. Theme of the observance will be: Four Score Years of Service to America. The President has issued a proclamation calling on the public, Federal agencies, and leaders of industry, labor, and public-spirited groups to take part in the observance.

FIRST CIVIL SERVANT to be named an astronaut is Neil Armstrong, 32, X–15 pilot and senior NASA pilot in the Dyna Soar program. The list of nine new astronauts, released September 17, contains four Air Force pilots, three from the Navy, and one from industry. Mr. Armstrong flew 78 combat missions in Navy jet fighters during the Korean war. He has accumulated 2,400 flying hours in more than 50 types of aircraft. A civil servant since 1954, astronaut Armstrong has served as project pilot on the F–100A, the F–100C, the F–101, the F4H, and the F–104A. The other civilian astronaut is Elliott M. See, Jr.

(Continued—See Inside Back Cover.)

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NEW LOOK
for that "ole book"

This ole book is getting mildewed
It has dry rot in its spine
There's an error in the grammar
On page L-2489.
This ole book is dull and turgid
It has Chaucer's type of prose,
It is full of musty odors
To affront your Roman nose.

—Stanza 2, "The FPM"
A parody by David T. Stanley.

THOUGH THE FEDERAL PERSONNEL MANUAL is not as totally archaic as the above parody claims, the Government's most-quoted and perhaps most-misquoted missive is coming in for a complete overhaul.

The Herculean rewrite is being currently engineered at the Civil Service Commission on a crash-project basis. And, if all goes well, in a few months the ole book will step out in its new look: one basic FPM and eight separate supplementary manuals.

The revamped FPM should make life easier for those who have been caught in the middle of using the Commission's new official issuance system for external FPM Letters and the old system represented by the FPM itself. If all goes according to plan, there will be more chapters but less confusion—thanks to the adoption of a new subject-matter classification and numbering system.

In place of the old system of arranging FPM chapters in alphabetical order, there will be an orderly arrangement of subjects keyed to a decimal system. No more wading through chapters A to Z for information, only to have to make another search for related issuances. One number will open the door to all available information on a particular subject, whether it be in an FPM chapter, supplement, or letter.

The anticipated publication date for the overhauled FPM is early in 1963. Upon issuance, the Commission will give agencies a 60-day familiarization period before the new manual becomes effective. The new look will then become an official part of Federal personnel administration.

Refurbishing the FPM has involved more than renumbering. The way in which subjects are presented has also been changed. The *basic* manual is designed for personnel officers and others who are responsible for policy. Manual chapters will stress policy, not procedure, in areas such as *competitive service* and *competitive status*. Matters of procedure—the specialist's bread and butter—will not clutter up the basic manual. These are spelled out in the supplements. A specialist in the retirement field, for

(Continued—See NEW LOOK, page 36.)

For Improved R & D

WE MUST CLOSE THE COMMUNICATIONS G—A—P

by JOHN W. MACY, Jr., *Chairman*
U.S. Civil Service Commission

A Government research scientist resigned to accept a job offer in private employment because he did not wish to assume administrative duties in order to qualify for a higher grade.

A brilliant young engineer's advancement was stalled for want of needed supplementary academic training, because he had already had the "maximum" provided by the Government Employees Training Act.

A complex research project bogged down, because it did not fit into the frame of a Federal workweek of five 8-hour days.

THESE EXAMPLES of administrative "pilot error" caused tragedies that could have been averted. If managers had only understood the rules that exist—and the flexibility of those rules—none of these "crashes" need have occurred.

IT IS NOT NECESSARY for research scientists to assume administrative duties to advance.

EXCEPTIONS CAN BE MADE to the "maximum" requirements of the Government Employees Training Act.

THERE IS AMPLE FLEXIBILITY in the Government's workweek requirements.

These misjudgments could have been made, and they probably were made, because of nothing more than a communications gap.

What is so often cursed as red tape or a hamstringing weakness in the personnel system is actually a failure of people. We must do something about it. This is an area of crucial importance for personnel management.

Three timely studies point up important aspects of this problem.

1. The Bell report on "Contracting Out" Government research and development projects underscored the critical need for in-house competence to assure proper supervision of the work being done by the Government and under contract.

2. The Astin Panel's second report on the "Competition for Quality" identified a number of administrative procedures in Federal laboratories that were not conducive to maximum efficiency.

3. A joint Department of Defense-Civil Service Commission inspection survey of 9 defense research and development laboratories revealed a serious communications gap.

Collectively, the three studies flash a warning signal for improvements in recruiting and retention of employees, better manpower utilization, and improved training and development of specialized manpower in Federal research and development installations.

BELL COMMITTEE FINDINGS

The Bell report, based on a study of contracting out, was made at President Kennedy's request by a committee headed by Budget Bureau Director David E. Bell.

In reviewing Federal policies on the awarding of research and development contracts to non-Federal establishments, the Committee also studied the problems of "in-house" research and development operations, and how this in-house capability could be improved.

They found that in-house competence of scientists, engineers, and administrators had been eroded by lagging Federal pay. They emphasized the need for working environment which could attract and hold first-class scientists and technicians. They found procedures

which were "cumbersome and awkward," among them a failure to delegate decision-making power to laboratory directors and a failure to give technical people adequate control over support services. They found excess layers of supervisory management.

More directly to the point of personnel management, they found need for better use of *existing* governmental facilities and personnel, for a continuing upgrading of the capabilities of research and development personnel through training, for the assignment of challenging responsibilities, and for providing more effective incentives for scientists, engineers, and program administrators.

The only weakness the Bell Committee identified that could not be improved under *existing* authority was pay, and that deficiency has now largely been remedied.

ASTIN PANEL FINDINGS

The Panel on Scientific Personnel, headed by Dr. Allen V. Astin, Director of the National Bureau of Standards, studied factors affecting the recruitment and retention of able scientists and engineers in Federal research and development installations, and the creation of a more favorable environment for scientists and engineers.

Some specific findings of the Astin Committee exposed the need for: improved training and educational opportunities for professional personnel; lifting travel restrictions for professional personnel to attend professional meetings, for purposes of presenting or hearing technical reports; less rigidity of working hours for research and development personnel; better advancement opportunities for outstanding people; reduction of the amount of time a professional man must spend on administration; and a greater and more effective output of information to the public on the nature of the work and the accomplishments of Federal scientists and engineers.

The Astin Report's recommendations, like those of the Bell Report, could largely be acted upon under *existing* authority.

JOINT CSC-DOD FINDINGS

Teams of Department of Defense and Civil Service Commission research and manpower staff members visited 9 representative laboratories in the military establishments. Their object was to identify the administrative restrictions that were hampering research effectiveness, and to determine which of these restrictions could be eliminated by administrative action.

They found repeated corroborations of the Astin and Bell reports. And once again the pattern emerged: Most of the problems can and should be solved through the proper application of *existing* authority.

ACTIONS UNDER WAY AND IN PROSPECT

Clearly apparent is the fact that too many administrators in too many research and development installations either do not fully understand the flexibilities inherent in the Federal "system," or they have not been properly informed as to the avenues open to them.

The Civil Service Commission has taken or is taking action to remedy a number of problems which have their source in personnel administration. In nearly every instance the prescription for the malady involves a rapid closing of the communications gap. Some examples follow.

Recruiting and Hiring Expedients. Agencies complained that the "system" hampered the rapid hiring of a desirable shortage-category employee for research and development work. They were authorized *under existing regulations* to convene boards of examiners who had authority to examine the candidate's qualifications and certify him for employment immediately. The agency could hire him the same day.

Agencies complained that while industry could hire "on the spot" during campus visits, *they* could not. The Commission authorized *under existing regulations* the joint certification by the Commission and the agency concerned of recruiters as members of a board of examiners, with authority to hire. Now a recruiter can set up his recruiting booth, review the candidate's record, certify his qualifications, and give him a career-conditional appointment, on the spot. Of course, adequate safeguards are taken to preserve the integrity of the merit system. But the more imperative the need for shortage-category personnel, the more expeditious the means.

Professional Promotion Requirements. Installations complained that a professional employee must assume administrative responsibilities in order to qualify for promotion to the higher levels.

The opportunity for advancement solely on the basis of research effort and professional qualifications, without the assumption of administrative duties, has not been sufficiently publicized nor used, although *existing* classification standards make specific provision for such advancement. It is also apparent that the concept of "impact of the man on the job" is not universally understood, and therefore is not being used to fullest advantage. Understanding of the doctrine and its flexibility is needed.

Training. The Commission is taking steps to encourage fuller use of the authority for training in nongovernmental facilities given to Federal agencies by the Government Employees Training Act. We want to emphasize that needed training should not be bypassed just because the one-year-in-ten limitation is reached. This limitation can be—and is—waived when it is in the public interest to do so. As to the Act's restriction on training solely for academic degrees, there is some evidence that too narrow an interpretation has been given this provision in some locations, hampering training unnecessarily.

Working Hours. Installations complained that rigid working hours for technical people were hampering

(Continued—See COMMUNICATIONS, p. 29, col. 2.)

"for distinguished Federal Civilian Service . . ."

PRESIDENT'S AWARDS—1962

PRESIDENT KENNEDY presented Distinguished Federal Civilian Service Awards to six career civil servants at a White House ceremony August 7.

DR. FRANCES O. KELSEY
Food and Drug Administration

ROBERT R. GILRUTH
National Aeronautics and Space Administration

LLEWELLYN E. THOMPSON
Department of State

DR. DONALD E. GREGG
Department of the Army

J. STANLEY BAUGHMAN
Housing and Home Finance Agency

MRS. WALDO K. LYON
(accepting award for husband absent on mission for Department of the Navy)

"In their respective fields, each recipient has made exceptional contributions to the current public good and to the national interest. Each has demonstrated creative imagination, courage in pursuing high goals, and superlative competence in reaching important Government objectives. All richly merit the highest kind of praise and honor the American people can give their public servants."—*John F. Kennedy*

AWARD RECIPIENTS pose with President Kennedy on the White House lawn.

"MADAM CHAIRMAN," the tall gentleman at the end of the conference table said, rising, "Madam Chairman, I have the honor to present to you a letter from the President of the United States."

The Time:	June 16, 1962
The Place:	Hyde Park, New York
The Gentleman:	The Deputy Attorney General of the United States
Madam Chairman:	Mrs. Eleanor Roosevelt
The Occasion:	A meeting of the President's Commission on the Status of Women
The Letter:	——the climax to an action that began in the Senate almost a hundred years ago

JOHN W. MACY, JR., chairman of the Civil Service Commission (foreground), discusses effect of new ruling by Attorney General on an 1870 hiring statute. Others attending the meeting of the President's Commission on the Status of Women at Hyde Park, N.Y., were, left to right: Miss Margaret Hickey, chairman, Committee on Federal Employment Policies and Practices; Assistant Secretary of Defense for Manpower, Carlisle Runge; Mrs. Roosevelt, Commission chairman and hostess at meeting; Deputy Attorney General Nicholas Katzenbach; and Assistant Secretary of Labor Esther Peterson, executive vice chairman of the Women's Commission.

THE Quiet REVOLUTION

by **EVELYN HARRISON, *Deputy Director***
Bureau of Programs and Standards
U.S. Civil Service Commission

ONE DAY IN THE SUMMER of 1870, the Congress passed a rather insignificant amendment to a general appropriations act. Insignificant insofar as national legislation was concerned, but of utmost importance, as it turned out, to the future employment of women in the Federal service.

In 1870, thirteen years before passage of the Civil Service Act, department heads in the Federal Government had wide authority to hire whomever they pleased. Congress had, however, established four classes of clerks for the Federal service with annual salary rates of $1,200, $1,400, $1,600, and $1,800. It had also authorized, during the Civil War, the employment of women in clerical positions at salaries of $600, $720, and $900 a year.

This had created some confusion and question on the part of department heads concerning their authority to employ women as clerks at the higher salary rates. Consequently, an amendment was introduced on the floor of the Senate in the early summer of 1870. Its primary purpose was to clarify the situation by specifically authorizing the appointment of women to any of the four existing classes of clerks and requiring them to be compensated on the same basis as men performing the same work.

After some debate in the Senate and House, the following legislation was enacted (section 2 of the Act of July 12, 1870):

> "That the heads of the several departments are hereby authorized to appoint female clerks, who may be found to be competent and worthy, to any of the classes of clerkships known to the law, in the respective departments, with the compensation belonging to the class to which they may be appointed, but the number of first, second, third, and fourth class clerks shall not be increased by this section."

Three years later, in 1873, section 165 of the Revised Statutes was enacted. The Act which authorized preparation of Revised Statutes provided that their publication would be legal evidence of the laws therein, but they could not affect the intent of the original acts as passed by Congress. Section 165 of the Revised Statutes reads as follows:

> "Women may, in the discretion of the head of any department, be appointed to any of the clerkships therein authorized by law, upon the same requisites and conditions, and with the same compensations, as are prescribed for men."

The phrase, "in the discretion of the head of any department," has been considered over the years the basis for possession, on the part of agency heads, of the legal

right to appoint to any position, regardless of duties, men only or women only, as they chose. In 1934, the Attorney General specifically affirmed this interpretation by ruling, in essence, that the President was without authority to control this discretion of the heads of agencies.

The rules and regulations of the Civil Service Commission pertaining to appointment and advancement in the Federal merit system have long recognized this prerogative of appointing officials. These rules and regulations have specifically prohibited discriminatory action because of religious or political affiliations, marital status, physical handicap, race, color, or national origin. But they have had to be silent on the question of discrimination on the basis of sex.

This is not true, however, in areas of Federal personnel administration other than appointment and advancement. Subsequent civil service legislation has enabled the Commission to maintain a regulatory structure in these areas for the competitive civil service almost entirely without sex distinction. The Classification Act of 1923 established the basic principle of equal pay for equal work, regardless of sex. The reduction in force processes and the regulations and procedures controlling adverse actions apply alike to men and women employees. So, for the most part, do the laws and the Commission's implementing regulations providing "employee benefits," such as leave, life insurance, retirement, and health insurance.

The authority of appointing officers to limit appointment by sex has meant, for one thing, that while competitive civil service examinations have been open to both men and women, the referral of "eligibles" from these lists for appointment to the Federal service has been limited to one sex or the other when so requested by any agency. This has also meant that many well-qualified individuals were never referred and considered for positions they might well have filled, and that persons of lesser qualifications have been appointed, for reasons having nothing to do with merit.

But what *was* in the letter from the President that was handed Mrs. Roosevelt by Deputy Attorney General Katzenbach at Hyde Park? Why, it was simply this—a message of such vital significance that it will undoubtedly hereafter command a major niche in the employment annals of the Federal service. For in this letter the President informed Mrs. Roosevelt that the Attorney General had reversed the 1934 opinion of his office, saying in effect that nothing in the 1870 statute, or subsequent legislation, in any way limits the Constitutional and statutory authority of the President to prescribe rules regulating the eligibility of women for positions in the Federal service.

And so the action which began in the Senate nearly a hundred years ago, directed primarily toward permitting the promotion of women employees and allowing them to receive the same pay as men doing the same work, has, after all these years, been legally confined to its original intent.

II.

THE RECENT ACTION of the Attorney General is a direct outgrowth of the President's expressed objective, and the actions he has taken, toward eliminating prejudices and other barriers that may stand in the way of affording everyone in our democracy the basic right to lead a meaningful life with freedom, dignity, and self-fulfillment. In a more general sense, it also tends to illustrate the "quiet revolution" which has been taking place for some time in our country, and in other countries throughout the world, for the emergence of women as fully accepted members of the economic and working community.

In 1848, at a meeting in Seneca Falls, N.Y., a group of distinguished but indignant and rebellious American women met to discuss the social, civil, and religious conditions and rights of women. They set forth their complaints in a historic document that they called their "Declaration of Sentiments." This document graphically and dramatically characterizes the status of women in our country at that time. Women were, legally, somewhere between a minor and chattel; they had no right to vote; they were denied the opportunity for professional education or employment; and if married, had, under the laws, no property rights nor, in many cases, entitlement to their own earnings if they became gainfully employed.

We are all familiar with the enormous changes made in the hundred or more years since then, changes which, for the most part, have been concomitant with the great social, industrial, and technological revolutions through which this country has passed and in which we are currently involved. The forces and factors which have changed our social, cultural, and economic structure as a nation have had an immeasurable impact on the role of woman in our society. So, too, have the unceasing efforts of the great women's organizations.

The advancement of technology has not only resulted in a shift from a predominantly agricultural existence to an industrialized, urban one, but has also released the American woman from many of the former consuming demands of the home. She is no longer, as a housewife, involved full time in the education of her children, in the care of the sick, in the preservation of food for the family, in the weaving of cloth and the making of garments, in the baking of bread, and in the million and one household chores which had to be performed manually at all times.

At the same time that the demands on her time in the performance of home duties have decreased, the advances made in medical science have prolonged her life span, so that the average woman today can look forward to a life expectancy of more than 40 years after her children have completed school.

These industrial and technological changes have created new occupations, have increased and broadened employment opportunities, and have resulted in a growing demand for woman's services. Her first major entrance into the work force was largely into those fields in which she was associated in the home environment—the production of goods, services of various kinds, nursing, and teaching. As she moved into the labor force in greater numbers, and two World Wars have played a major part in this, traditional employment attitudes have altered, and greater opportunities for training and work in different fields have opened up to her. Too, as our educational system has developed and expanded, she has acquired free primary and secondary education. She has had opportunity for higher scholastic training which was not available to her before. As a result, she has begun to move in greater numbers into professional and technical fields previously filled only by men.

TODAY, IN THE UNITED STATES, there are over 23 million women in the Nation's labor force. This comprises over one-third the total work force. More than one-half of the women workers are married, and one-half are 40 years of age or older. Of all married women, more than one in three are working. Of all single women between the ages of 24 and 64, 75 percent are working. It is estimated that 9 out of 10 of the girls in high school and college today will be employed at some time in their lives.

Why does the average working woman work? Perhaps for some of the same basic reasons the average working man does, although personal motivations may differ. One obvious reason a woman works is to support herself or her dependents. There are millions of working women today who are heads of families. Another reason is to contribute to the income of her family. Many a married woman works simply so that the combined income of her husband and herself can provide a higher standard of living for the family or a financial base for the future education of their children. A third reason, of course, is for personal fulfillment or a desire to contribute to the social and cultural environment of the community or country.

One of the interesting attitudinal changes which has occurred since World War I is that it is no longer "not respectable" for a married woman to work. In most socio-economic levels, the subtle group censure formerly directed toward the husband of a working wife, implying an inadequacy on his part to provide for her, has disappeared.

But even with the great infiltration of women into the working world in the last 50 years, this has not meant that today she is either fully accepted in most occupations or given equal opportunity for advancement commensurate with her abilities and potential. Prejudicial and discriminatory practices and customs are still prevalent.

(Continued—See REVOLUTION, page 22.)

DECLARATION OF SENTIMENTS

"THE HISTORY OF MANKIND is a history of repeated injuries and usurpations on the part of man toward woman. To prove this, let facts be submitted to a candid world.

"HE HAS NEVER PERMITTED her to exercise her inalienable right to the elective franchise.

"HE HAS COMPELLED HER to submit to laws, in the formation of which she had no voice.

"HAVING DEPRIVED HER of this first right of a citizen, the elective franchise, thereby leaving her without representation in the halls of legislation, he has oppressed her on all sides.

"HE HAS MADE HER, if married, in the eyes of the law, civilly dead.

"HE HAS TAKEN FROM HER all right in property, even to the wages she earns.

"HE HAS MADE HER morally an irresponsible being, as she can commit many crimes with impunity, provided they be done in the presence of her husband * * *

"HE HAS SO FRAMED the laws of divorce, as to what shall be the proper causes, and, in case of separation, to whom the guardianship of the children shall be given, as to be wholly regardless of the happiness of women—the law, in all cases, going upon a false supposition of the supremacy of man, and giving all power into his hands.

"AFTER DEPRIVING HER of all rights as a married woman, if single and the owner of property, he has taxed her to support a government which recognizes her only when her property can be made profitable to it.

"HE HAS MONOPOLIZED nearly all the profitable employments, and from those she is permitted to follow, she receives but a scanty remuneration. He closes against her all the avenues of wealth and distinction which he considers most honorable to himself. As a teacher of theology, medicine, or law, she is not known.

"HE HAS DENIED HER the facilities for obtaining a thorough education, all colleges being closed to her.

"HE HAS CREATED a false public sentiment by giving to the world a different code for men and women, by which moral delinquencies which exclude women from society, are not only tolerated, but deemed of little account in men.

"HE HAS USURPED the prerogative of Jehovah himself, claiming it as his right to assign for her a sphere of action when that belongs to her conscience and to her God.

"HE HAS ENDEAVORED, in every way that he could, to destroy her confidence in her own powers, to lessen her self-respect, and to make her willing to lead a dependent and abject life."

Meeting at Seneca Falls, New York, Summer of 1848, to discuss "the social, civil, and religious conditions and rights of women."

CIVIL SERVICE INVENTORS

Part II

KENNETH W. WOODWARD, blood pump inventor, standing beside working model, holds fluid amplifier which powers and controls blood flow. The pump, made mostly of plastic and weighing less than 8 pounds, is shown attached to the wall below inventor's left elbow. (*Army photo*)

SOMEDAY—perhaps within the next decade or two—the heart patient may be able to trade in his old heart for a mechanical one which will work unfailingly inside his chest. To power his new heart, he will merely attach (and change periodically) a small cylinder of compressed air.

Fantastic? According to expert medical testimony, a civil service inventor—Kenneth E. Woodward, mechanical engineer at Army's Diamond Ordnance Fuze Laboratories—has made an important step in that direction.

Mr. Woodward has invented an artificial heart pump for use outside the body—to take over a failing heart for short periods, or a heart that is being deliberately bypassed during surgery. His pump works on the principle of pure fluid amplification, an invention of other DOFL scientists reported in Part I of this article. Woodward's pump, weighing less than eight pounds and made almost entirely of plastic, needs no outside power source other than an attached cylinder of compressed air. It therefore has complete mobility, a fact which has created high Army interest in its possible field use.

Of particular significance in the invention is Mr. Woodward's application of mechanical engineering skills in the medical field, which was foreign to all his previous training and experience. Following the design and production of his prototype model, he established liaison with and received support from the Army Medical Corps. Testing the pump in animal surgery, the Medical Corps reported that it exceeded expectations and overcame many of the limiting features of commercial pumps. It was during this testing that medical experts urged Mr. Woodward to work in the direction of an artificial heart for use inside human beings. Though this is a definite long-range goal, present efforts are confined to perfecting the heart pump. To this end, Woodward and his DOFL associates are collaborating with scientists of Walter Reed's Department of Resuscitation, headed by Lt. Col. Timothy G. Barila.

For his dramatic invention, Mr. Woodward received Army's Exceptional Civilian Service Award on October 5. To date he has ten invention disclosures. Patent applications have been filed on five, and patents issued on two.

The entire populace the world over may reasonably expect to reap a tremendous benefit from the ingenuity of this career civil servant.

HARNESSING THE SUN

The general public may expect to benefit greatly from the inventiveness of another Army civil servant—Harry E. Thomason.

Mr. Thomason, a patent advisor with the Army Signal Corps in Washington, has probably come closer to achieving a commercially feasible solar heating *and* air conditioning system for homes than any other inventor. This, to say the least, is quite an achievement for a relative newcomer to the field.

The best previous system costs $6,500 and provides about half of the needed heat. Mr. Thomason has developed a system, costing $2,500, which supplies nearly all the needed heat *plus* air conditioning for summer months. He has built two solar-heated homes in the Washington area with which to work toward additional improvements and still lower costs. He, his wife, and five children live in one of them. The other, 125 feet away, is rented, with the inventor-owner retaining access rights for tests and performance checks.

What did Thomason do differently? He attacked the problem as a whole from the dual standpoints of efficiency and costs.

First, the heat from the sun had to be trapped. Thomason devised a heat collector made up of ordinary window glass through which the sun shines onto black corrugated sheet metal. This system forms the back slope of the roof, which faces slightly west of south. The sun makes the black metal hot—even in the dead of winter. Snow on the ground adds to the reflection of the sun's light and makes the corrugated metal still hotter. Water is pumped to the top of the collector and flows down through the corrugated valleys. This makes the water hot. The hot water then flows to a heat storage bin in the basement—a 1,600-gallon drum of water surrounded by 50 tons of stone. Much of the heat of the water is absorbed by the stones, producing a "storage battery" of stored heat for use during cold evenings and nights—and days when the sun doesn't shine at all.

Domestic water for the home is heated in a separate compartment of the heat bin. Cold air from the house

HARRY E. THOMASON (left), patent advisor with Army Signal Corps, explains a model of his solar heating invention to David L. Ladd, U.S. Commissioner of Patents, and Hickman Price, Jr. (right), Assistant Secretary of Commerce for Domestic Affairs. (*Army photo*)

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is circulated through the warmed stones and around the warmed drum by a thermostatically controlled blower. This warms the air which is then circulated by blower throughout the house. In the dead of winter enough heat can be stored to keep the home warm for 5 to 7 cloudy days. If no sun appears by the time the stored heat is exhausted, the house is then heated by a small standby conventional unit. On sunny winter days enough surplus heat is trapped to heat an *outdoor* swimming pool.

In the summertime, the process is reversed. Water is cooled at night through evaporation and radiation by circulating it over the cool metal roof. In another version of this, and to provide additional cooling, Thomason has hooked in a small refrigerating compressor. The coolness is transferred to the 50 tons of stone, and air from the house is cooled by circulating it through the stones and then back into the house.

How efficient is the Thomason system? His total winter heating bill for either house has not exceeded $7 for auxiliary heating required during extended bad weather.

As one might expect, Mr. Thomason's achievement has attracted international attention. He was selected by the National Science Foundation to present a scientific paper on solar heating at the United Nations Conference on New Sources of Energy in Rome in August 1961. His achievement was presented in a United Nations film, "Power on the Doorstep." Many newspapers and magazines have applauded his ingenuity, and large commercial interests have contacted him. Though he developed his invention completely apart from his official duties, he has voluntarily given the U.S. Government a free license to use any of his ideas for which patents are pending.

As a postscript it can be stated that Mr. Thomason's *hobby* is solar energy—and that is how he came to build his two famous houses!

LAUNCHING A NEW SCIENCE

Three years ago the Secretary of Defense awarded the Department's highest honor to Dr. Herbert Friedman, a Navy scientist, for his many outstanding accomplishments. The citation said, in part, "through Dr. Friedman's unique and imaginative efforts, the new science of rocket astronomy has been successfully launched. . . ."

Several months ago this same scientist received a medal and $5,000 as the first recipient of the Navy Award for Distinguished Achievement in Science. His record more than bears out the fact that his achievements have indeed been "distinguished."

Dr. Friedman, Superintendent of the Atmosphere and Astrophysics Division of the U.S. Naval Research Laboratory, Washington, D.C., is credited with directing the project that put the first solar observatory into orbit in 1960. He headed the team that first used rockets to observe and study an eclipse of the sun, and that made many discoveries in the field of upper air research. A World War II invention of his, having to do with the manufacture of quartz crystals for radio use, is credited with saving the Nation an estimated 50 million man-hours and accelerating delivery of indispensable apparatus urgently needed by the Fleet. For this he received Navy's Distinguished Civilian Service Award.

Since World War II he has conceived, designed, and executed numerous rocket astrophysical experiments that have yielded within about 15 years more new information about the upper atmosphere, solar radiations, and

TWO MORE DOFL INVENTORS

DR. HENRY P. KALMUS, Associate Technical Director for Advanced Research and Chief Scientist of the Diamond Ordnance Fuze Laboratories, Washington, D.C., began his civil service career in 1948. He has made 24 disclosures and has received 10 patents. Most of his inventions represent far-reaching and important technical contributions. He originated an entirely new concept which permitted adaptation of the radio proximity fuze to guided missiles. His fuze principles have been so universally adopted by other designers that he may correctly be called the "father of proximity fuzes for guided missiles." His direction-sensitive doppler device provided a valuable principle for fuzing systems, miss-distance indicators, and missile scoring systems. He invented the Cigarette Fuze, a new short-range measuring instrument with applications for near-surface-burst missiles. He has also perfected a flowmeter which measures blood flow without penetrating veins and arteries—also used to measure radioactive coolant flow in atomic engines. In addition to other honors and awards, he won Army's Exceptional Civilian Service Award last year. (*DOFL photo*)

DONALD J. BELKNAP, Physicist, Diamond Ordnance Fuze Laboratories, also won Army's Exceptional Civilian Service Award last year—and a special achievement cash award of $5,000 for his invention of the incandescent microlamp (pictured above). The tiny light source is hailed as the world's smallest light bulb. The invention is suitable for use in aircraft instrument panels, portable low-power readout for range finders, point source illumination for optical systems, function indicators for complex missile circuitry, and for rapid checkout of malfunctioning circuits on data analysis computers. The bulb is now being manufactured commercially, and medical authorities foresee numerous applications in diagnostic and surgical fields. (*DOFL photos*)

DR. HERBERT FRIEDMAN, Superintendent, Atmosphere and Astrophysics Division, Naval Research Lab.

He is credited with launching the new science of rocket astronomy. For centuries man studied the heavens through a blanket of air which shut out much that was to be learned. Instruments, high above the atmosphere, now send back more information than it was ever before possible to acquire. (*Navy photo*)

LOUIS A. GEBHARD, Superintendent, Radio Division, Naval Research Lab.

With 93 patents since 1920 he is credited with a number of important "firsts" in the field of radio transmission, including developing the first radio transmitter to broadcast an address by the President. In 1933 he was responsible for development of first storm locating system using radio waves—a system still used today by Air Force. (*Navy photo*)

stellar radiations than optical astronomers produced during centuries of experiments.

This brilliant inventor holds 33 patents and has two applications pending.

93 PATENTS IN 42 YEARS!

The Naval Research Laboratory has many outstanding inventors. Friedman is one of them. Louis A. Gebhard is another. Mr. Gebhard, Superintendent of the Lab's Radio Division, is still coming up with new ideas after racking up an astounding total of 93 patents since 1920. This employee is credited with a number of important "firsts" which have brought great benefits to Government, industry, and the general public.

In 1920 Mr. Gebhard invented a system that permitted aircraft radio operations to change frequencies while in flight, and developed a voice transmitter which, when installed at "Radio Arlington," broadcast for the first time an address by the President of the United States. In 1924 he built the first high-power crystal-controlled transmitter in the world.

He went on to develop the first transmitting equipment embodying the "electronic pulse" principle which was his contribution to the first probing of the ionosphere. He was responsible, in 1933, for the development of the first radio storm locating system—a system still used extensively by the Air Force.

Going on from there, he conceived and guided the development of Navy's first electronic data system for air defense; established and guided the program which resulted in the first transmission of the human voice, the first transcontinental transmission, and the first transoceanic transmission over the moon circuit—resulting in establishment of the first operational circuit using the moon as a reflector (Washington to Hawaii). He also established and guided the programs which have provided the basis for building the world's largest fully steerable parabolic antenna, known as a radio telescope.

When it comes to inventors—Federal or non-Federal—Mr. Gerhard is certainly a leading contender for the title of "Mr. First."

FATHER OF MODERN SONAR

The man who is credited with being the "father of modern sonar" is Dr. J. Warren Horton, Technical Director of Navy's Underwater Sound Laboratory at New

(Continued—See INVENTORS, page 26.)

MORE NAVY INVENTIVENESS

ROBERT Z. PAGE, Entomologist, Entomology and Wood Preservation Section, Maintenance Management Division, Bureau of Yards and Docks. Among other inventions, he has developed a microscope illumination device that is launching a new era in biological research. His attachment causes the internal structure of living cells to show up in different colors—eliminating the need to kill the specimens and stain them chemically.

DR. WILLIAM A. ZISMAN, Superintendent, Chemistry Division, Naval Research Lab, Washington, D.C.

A top authority in the field of lubrication, he has invented oils and greases which are in worldwide use in aviation, instrument lubrication, and defense operations. During recent years he has won many significant honors, including Navy's Distinguished Civilian Service Award. He has 20 patents issued and 7 applications pending. (*Navy photo*)

DR. WILLIAM A. GEYGER, Electrical Engineer, Magnetism and Metallurgy Division, Applied Physics Department, Naval Ordnance Lab, White Oak, Md. An outstanding contributor to Navy's research efforts, he is a world authority in the field of high-sensitivity low-power-drain magnetic devices. He has published 3 books and over 100 articles and papers, and has 11 U.S. patents, with 7 pending. (*Navy photo*)

GEORGE K. C. HARDESTY, Research Electronic Engineer, Naval Engineering Experiment Station, Annapolis, Md.

In more than 34 years' civilian service with Navy, he has been granted 20 patents, with 5 pending. He is recognized as top authority in shipboard instrument illumination. His inventions in this field are used in the bridge and control spaces of all modern ships.

A Look at LEGISLATION

Major personnel legislation enacted by Second Session, 87th Congress, and signed by the President:

CONFLICT OF INTEREST

Public Law 87–849, approved October 23, 1962, strengthens, revises, and simplifies existing Federal conflict-of-interest laws. Makes appropriate general provision for consultants and temporary employees in the executive branch, the independent agencies, and the District of Columbia. Integrates the conflict-of-interest laws with recodified prohibitions on bribery and graft.

EMPLOYMENT

Public Law 87–614, approved August 29, 1962, authorizes employment without compensation from the Government of readers for blind Government employees.

HOUSE TRAILERS

Public Law 87–776, approved October 9, 1962, removes the statutory ceiling of 20 cents per mile allowance for employees transporting trailers or mobile dwellings upon their transfer from one official duty station to another.

LIFE INSURANCE

Public Law 87–611, approved August 28, 1962, allows unclaimed life insurance benefits to revert to the Federal Employees' Group Life Insurance fund.

PAY

Public Law 87–793, approved October 11, 1962, Part II, "Federal Salary Reform Act of 1962," establishes a basic policy for adjusting and administering Federal statutory salaries based on a yearly review of salaries in comparable levels of work in private enterprise, and provides proper relationships within and among the various statutory salary systems.

The major salary schedules affected are those of the Classification Act, the Postal Field Service Compensation Act, and the laws under which Foreign Service employees and certain employees of the Veterans Administration Department of Medicine and Surgery are paid. Pay adjustments would be effective in two phases—the first pay period after enactment and the first pay period after January 1, 1964. There is in this law, however, no second-stage increase for grades GS–16, 17, and 18.

Title II, "Classification Act Amendments of 1962," provides 10 per annum salary rates in lieu of the present 7 scheduled and 3 longevity rates for GS–1 through 10; 9 rates for GS–11 through 14 in lieu of 6 scheduled and 3 longevity rates; 8 rates for GS–15 in lieu of 5 scheduled and 3 longevity rates. GS–16 and 17 continue to have 5 rates each. GS–18 continues to have a single rate.

Instead of the present 1-year or 18-month waiting period, the time intervals between within-grade increases in grades GS–1 through 17 will be as follows: 1 year for the first 3 increases, 2 years for the next 3 increases, and 3 years for the last 3 increases. Additional within-grade increases may be granted in recognition of high quality work. Provisions are made for establishing higher minimum rates and corresponding new salary ranges for occupations or locations where the Government's ability to recruit and retain is handicapped by substantially higher private-enterprise rates. The limitation on the number of positions in grades GS–16, 17, and 18 is raised from 1,989 to 2,400. Certain classes of engineering and professional positions are now excepted from this limitation.

Titles III, IV, and V of the act extend the principles of comparability and internal alinement to salary schedules for the Postal Field Service, the Foreign Service and the Department of Medicine and Surgery, Veterans Administration, by linking them with Classification Act salaries at appropriate levels. Title III removes PFS–17 from the group of positions controlled by numerical limitations and grants the Postal Field Service a 10-percent exemption from the limitations on number of employees authorized under the Whitten amendment.

Title VI increases the salary limitations for certain scientific, professional, and other positions. This title also provides increases for legislative and judicial employees.

POLITICAL ACTIVITY

Public Law 87–753, approved October 5, 1962, amends the Hatch Act to permit the Civil Service Commission, in case of violation, to assess a penalty of no less than 30 days' suspension without pay instead of the former 90 days.

POSTAL SERVICE

Public Law 87–487, approved June 19, 1962, provides that the beneficiaries of deceased Postal Field Service employees shall be compensated at the appropriate rate for all unused compensatory time to the credit of the employee at the time of death.

PROMOTION

Public Law 87–793, approved October 11, 1962. Section 604 amends the Classification Act of 1949, as amended, to provide that upon promotion or transfer to a position of a higher grade an employee will receive not less than a 2-step increase of the grade from which he is promoted.

RETIREMENT

Public Law 87–793, approved October 11, 1962. Part III, "Adjustment of Annuities," provides for initial and long-range adjustment of annuities and for liberalization in survivor benefits under the Civil Service Retirement Act. The act provides 5-percent increases effective January 1, 1963, on all annuities then payable. Initial increases are applied on a descending percentage basis to all annuities commencing in the 4-year period after January 1, 1963. The act removes the annuity increase ceilings of $2,160 and $4,104 imposed by the 1952 and 1955 enactments. It increases from $2,400 to $3,600 that part of the designated base for survivor annuities to which the 2½-percent reduction applies. Automatic survivorship benefits to spouse are provided unless the retiring employee elects annuity without spouse survivor protection. The act establishes a long-range plan, to take effect in 1964, under which civil service annuities will be increased automatically on April 1 of any year after cost of living has risen by 3 percent or more since 1962 or the year preceding the most recent increase. The act raises the maximum age for receipt of child-survivor annuity from 18 to 21 years in cases of children attending school. Part III will not be effective until funds are appropriated by the Congress.

TRAVEL

Public Law 87–566, approved August 2, 1962, amends the Government Employees' Training Act, to restore to Foreign Service employees of the Department of State, and Presidential appointees travel authority to attend meetings at Government expense.

* * * *

Bills that failed of enactment:

BACK PAY

H.R. 11753 provided for the payment of compensation and restoration of employment benefits to certain Federal employees improperly deprived thereof.

CLAIMS

H.R. 4131 authorized the Comptroller General to waive indebtedness growing out of erroneous payments of money to any civilian officer or employee of the Government and any member of the uniformed services. Extended similar authority to heads of agencies for waiver of such indebtedness where amounts do not exceed $150.

H.R. 6535 validated overpayments made to Federal employees for the period between February 28 and June 28, 1955, where such overpayments are attributable to erroneous retroactive wage increases. Provided for the return of any refunds collected.

H.R. 10357 provided for settlement of claims against the United States by members of the uniformed services and civilian officers and employees of the United States for damage to or loss of personal property incident to their services.

EMPLOYMENT

H.R. 5698 required that summer temporary appointments to positions in the competitive service in the District of Columbia area be apportioned among applicants from the several States on the basis of population.

H.R. 7865 repealed the prohibition against employment by the Federal Government and the District of Columbia of any employee of the Pinkerton Detective Agency or similar agencies.

LIFE INSURANCE

S. 1070 amended the Federal Employees' Group Life Insurance Act to provide for an additional unit of life insurance of $1,000 for employees whose salaries are less than $10,000 and $2,000 for those whose salaries are $10,000 and above.

QUARTERS ALLOWANCES

H.R. 7021 permitted Federal agencies under certain conditions to furnish employees with quarters, household furniture, utilities, subsistence, and laundry service. Provided that employees pay rental rates for such service based on the reasonable value thereof.

RETIREMENT

S. 188 granted civil service employees retirement at age 55 after 30 years' service with no reduction in annuity.

S. 2363 and H.R. 3258 allowed credit under the Civil Service Retirement Act for certain service performed in Federal-State cooperative programs.

S. 1850 amended the Civil Service Retirement Act to increase from 2 percent to 2½ percent the formula for determining annuities for certain Federal employees engaged in hazardous duties.

TAXATION

H.R. 2017 permitted the Federal Government to withhold from wages of Government employees taxes upon their income by municipalities which impose the duty of collecting taxes upon the employer.

—Mary V. Wenzel

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MAN AGAINST THE STORM

—she measures 300 to 400 miles across
—she creeps forward at 10 to 20 miles an hour
—she churns furiously inside, expending as much energy in one second as that contained in 10 A-bombs
—she destroys much that is in her path

She is a hurricane. She has a woman's name—but she is decidedly not a lady.

* * *

AT A MIAMI AIRPORT, 10 men board a specially equipped aircraft and fly straight into the center of the newest tropical hurricane. Others are fleeing the danger; these men are seeking the very heart of it. Their mission is pure research. Their job is to find out what makes the sprawling giant tick. If knowledge is power, they know it will take a lot of knowledge to equal the power of such a storm. And knowledge is what they are defying the elements to get.

These are civil servants at work—the courageous men of the Research Flight Facility of the U.S. Department of Commerce Weather Bureau.

THE RESEARCH FLIGHT FACILITY

The Research Flight Facility (RFF) was originally part of Weather Bureau's National Hurricane Research Project, established in 1955. In 1960, RFF became a separate small organization, and the scope of its activities was broadened to include research into all kinds of weather phenomena.

RFF has 23 highly trained civil service employees, mostly meteorologists and electronic technicians. The group has four planes: one B–57 jet, two DC–6's, and one B–26. The planes are crammed with the most sophisticated instruments for measuring the elements that produce weather.

HAZARDOUS MISSION

In the springs of 1961 and 1962, RFF moved temporarily to Oklahoma City to gather information on tornadoes. There they chased squall lines that breed the whirling storms, and took a myriad of readings and measurements—though they did *not* attempt to fly into the deadly funnels which can pack winds up to 500 miles an hour. At the end of each spring the men took off for Miami, with just 6 weeks to repair and calibrate their equipment in order to be ready for the hurricane season about to begin.

Throughout the 1961 hurricane season, they flew repeated sorties into six major hurricanes. In 1 week, 14 missions were flown into Carla, making it the most thoroughly investigated storm of all time.

As the planes penetrate a hurricane, thousands of measurements made by their sensitive instruments are recorded on magnetic tape. The tapes are returned to Miami where mathematicians of the National Hurricane Research Project sort and analyze the data with the aid of an electronic computer. Meteorologists then study the information to gain new insight into the mechanics of hurricane formation and movement.

AS A RESULT OF THE EFFORTS of these flying weather detectives, Weather Bureau forecasters have been able to improve their hurricane predictions, and countless lives have undoubtedly been saved by early and accurate warnings.

Last year the Research Flight Facility participated with Navy in the first of a series of seeding experiments to explore the possibilities of hurricane modification. On September 16 and 17, silver iodide was released from a height of nearly 43,000 feet into the eye of Esther. In less than half an hour, many cubic miles of water cloud were converted to ice crystals, and a measurable (though short-lived) decrease in the storm's intensity resulted. The weathermen believe they have found an "Achilles heel" in hurricane structure, and further tests—sponsored jointly by Weather Bureau, Navy, and the National Science Foundation—are planned for this year. Their goal is to find a way to diminish the force of a hurricane while it is still far at sea.

Next summer RFF is scheduled to join in an international study of the behavior of the ocean and atmosphere in the Indian Ocean area. While adding to the store of knowledge of weather in that region, they hope also to find clues to the solution of storms at home.

INTERIOR OF RFF WEATHER PLANE, showing complex of instruments that measure the ingredients of stormy weather.

In carrying out their hectic and hazardous duties, the men of the RFF leave their homes and families for weeks and months at a time. And, during peak storm activity, no matter where they are, they work around the clock seven days a week.

DURING THE HURRICANE SEASON, they coordinate their storm penetration flights with those of special Navy and Air Force flight crews who perform what might appear to be a similar function. However, the Navy and Air Force flyers are hurricane hunters and trackers—not hurricane scientists, as are the men of RFF.

And though the Research Flight Facility comprises but a tiny fraction of the 6,500 Weather Bureau employees who provide all weather services required for the public safety and national welfare, it may be that they and their fellow employees are writing a new chapter in the history of storms: "Man—the Master."

HURRICANE LIZA (above), as photographed by a Tiros weather satellite. Tiros VI is now in orbit, assisting in hurricane detection this fall. Photo on right shows a hurricane on surveillance radar. (*Weather Bureau photos*)

Coordinators report—

"WE'RE ROLLING!"

CITIZENS in every hamlet and metropolis of the land heard during the recent National Employ the Physically Handicapped Week why it is good business practice to hire the handicapped. Much of the publicity was generated by Federal employees who work diligently at selective placement of the handicapped on a year-round basis.

The Federal Government has earned recognition as a pace setter in utilizing the talents of persons who are handicapped physically or who have recovered from mental illness, having employed nearly 200,000 in the past two decades.

Success has grown in direct proportion to the numbers of Coordinators for Selective Placement of the Handicapped appointed at Federal activities and installations. In 1957, when there were few coordinators, nearly 6 of every 1,000 persons hired by the Federal Government were handicapped. Last year, with 3,500 coordinators in nonpostal installations and with 35,000 postmasters designated as coordinators, the handicapped accounted for more than 15 of every 1,000 hired.

All bridges have not been crossed, nor have all problems been solved in the Government's program for employing the handicapped, but the following selected comments, taken from annual reports of coordinators, reflect the spirit which prevails.

POSITIVE THINKING

One Federal manager, describing the superior work performance of 14 handicapped employees in his work force of 103, said: "It has been my observation that there is no turnover in the physically handicapped employees. The cost of training is not lost by their resignations. Their mental capabilities have not suffered because of their disabilities, and they ask no special considerations. These people came here looking for work, and that's what they got."

The spokesman of a NASA research center wrote, "my activities as a coordinator for this installation have been limited because all selection and placement officials have been absolutely impartial in selections for appointments, promotions, and reassignments. We presently employ 100 handicapped people out of a total of 538 employees. It is policy here to employ the best available candidate, neither discriminating against nor favoring the handicapped."

The administrator of a State Soil Conservation Service office said the nature of work there requires the majority of employees to be assigned arduous outside activities, such as walking over plowed fields, rough terrain, sloping land, through bushy areas, etc. Too, they must be able to use hand tools and instruments, and operate vehicles and demonstrate the operation of farm machinery. But he submitted a list of 60 handicapped employees afflicted with such handicaps as deformed or missing arms or legs, poor vision, deafness, arrested tuberculosis, organic heart disease, and diabetes. He concluded: "All handicapped employees on this list perform the duties of their positions in a satisfactory manner."

An armor and artillery firing center in Georgia hired 16 handicapped employees during the year, and all but one made the grade. The coordinator reported: "We feel that 15 out of 16 is a good record and will continue to do all we can to use persons who are handicapped."

A naval base coordinator tabulated the jobs being performed at his activity by handicapped persons: Automotive mechanic, carpenter, clerk, engineman, field tractor operator, guard, heavy duty equipment mechanic, helper, housing project assistant, laborer-cleaner, leadingman, liquid fuels pump operator, machinist, pipefitter, painter, refrigeration and air conditioning mechanic, saw filer, sewage disposal plant operator, sheetmetal worker,

shop planner, stockman, stenographer, supervisory firefighter, supervisory planner and estimator, survey technician, time clerk, truck driver, typist, and warehouseman.

One postmaster tabulated the handicaps of 17 employees hired during the year: 4 had histories of emotional problems, 1 had controlled epilepsy, 1 had asthma, 1 was a frostbite victim, 3 had impaired vision, 1 had inactive tuberculosis, 1 had an amputated left leg and a deformed left hand, 2 had controlled diabetes, 1 had a heart condition, and 1 had hypertension. All were performing satisfactorily.

"This is primarily a law enforcement agency," wrote an Immigration and Naturalization Service coordinator in Vermont. "We have recently promoted and assigned to the full range of immigration officer duties a former clerical employee who lost his left leg as a result of wounds received in action at Normandy, France, in World War II. Such an assignment is almost without precedent in this Service, as the work is most arduous. This officer has performed these duties with credit to himself and the Federal service."

The coordinator at a New England Air Force base expressed an attitude which appears to be gaining wide acceptance in Federal shops: "We have long realized that a handicapped employee properly placed ceases to be a handicapped worker in carrying out his assigned duties."

HOW THEY PERFORM

An Oklahoma coordinator reported: "Our 130 handicapped employees account for 18 percent of our total complement. It was gratifying last week to present an outstanding performance award to an employee who had formerly been a mental patient in our hospital."

A Virginia coordinator canvassed all supervisors and learned that 90 percent possessed a thorough understanding of the program and accepted without qualification the Federal program for utilizing handicapped persons. He cited the case of an employee who had suffered spinal tuberculosis in childhood which had limited her height to 4 feet and her weight to 55 pounds. This employee had earned a sustained superior performance award and had been selected for promotion in competition with nonhandicapped employees.

At a Texas installation where 14 percent of the 178 total employees are handicapped, 16 handicapped em-employees received promotions during the year, 2 received outstanding performance ratings, 3 got awards for sustained superior performance, 17 participated in the employee suggestion program, and 3 received commendations for outstanding performance.

At a Georgia depot, the promotion average for all employees was 19.7 percent. Among handicapped employees the rate was 21.7 percent.

COORDINATORS AT WORK

An applicant was about to be passed over for career-conditional appointment when the coordinator intervened. "I urged the operating official to accept the candidate under a 700-hour appointment, with a statement from his doctor," the coordinator reported, "with the understanding that if he could not perform satisfactorily his services could be terminated. The applicant was accepted and has performed satisfactorily."

At a small Pennsylvania post office, an older career clerk's memory was failing to the extent that he could no longer memorize the details of the dispatching scheme. His worry over his job precipitated a heart attack. When the man returned to work after treatment, the postmaster-coordinator arranged a swap between the clerk and a carrier. The experiment succeeded, both employees were satisfied, and the older worker is performing his outdoor work with enthusiasm.

When a reduction in force occurred at a naval hospital, the coordinator successfully placed one of the hospital's handicapped employees at a nearby naval air station.

At a North Carolina research office, two handicapped employees were selected for placement in higher positions so the installation could better utilize their skills and abilities.

A National Park Service coordinator in the West says: "In the field of internal placement we feel we have a program that can compare favorably with that of any other agency. There is a strong feeling at all levels of management that every possible step should be taken to provide a suitable job for any permanent employee who has a problem of health or physical condition in his present position. When lateral transfers cannot be accomplished at one installation, we canvass other installations until a transfer is arranged."

RECOMMENDATIONS FOR IMPROVEMENT

Coordinators take their work seriously. When problems arise they attempt to solve the problems at the work site.

In their annual reports they made a number of recommendations for improvement of the Federal program. Some recommendations would require action by the Civil Service Commission, some by the President's Committee for Employment of the Handicapped, and some by the Congress. All recommendations are being considered.

Despite the problems which remain to be solved, there is overwhelming evidence that the Federal program for employment of the handicapped is moving into high gear.

The Awards Story:

THEY FOUND A BETTER

Federal employees, during fiscal year 1962, found numerous ways to accomplish agency missions with greater efficiency and economy. Through their beneficial suggestions and superior job performance, all have benefited throughout the Nation. A summary of the year-end results of the Government-wide Incentive Awards program is shown below.

Also presented on these two pages are some of the most dramatic dollar-stretching achievements, reported during the fiscal year which ended July 1.

—Philip Sanders

EMPLOYEE CONTRIBUTIONS TO IMPROVED GOVERNMENT OPERATIONS

Fiscal year 1962

SUMMARY

Suggestions adopted	104,545
Superior performance recognized	76,029

MEASURABLE BENEFITS

Adopted suggestions	$64,828,726
Superior performance	$71,558,773

PLUS

BETTER ACCOMPLISHMENT OF AGENCY MISSIONS

Awards to Employees

Adopted suggestions	$ 2,943,468
Superior performance	$10,425,950

PAPERWORK SAVINGS of $677,500 a year will result from a joint suggestion by Jack L. Wood (above left) and Fred J. Ochs (right) of Internal Revenue Service's San Francisco District Office. The two auditors devised a system for using computer and autotypist machines in the preparation of tax audit reports, previously prepared by hand. New method will save 82 cents each for thousands of reports prepared annually in all IRS District Offices, and will also yield important intangible benefits. The two employees split a $3,895 award, the largest made for a suggestion during F.Y. 1962. (*IRS photo*)

MATERIAL SAVINGS of $1,035,910 in the overhaul of the KC–135 landing gear are credited to Walter Pennington (below right), a quality control inspector, Tinker Air Force Base, Okla. His idea prevented warpage of 418 landing gear supports which cost $2,480 each to replace. He received a suggestion award of $2,090 for extending the life of this equipment. (*AF photo*)

WAY

CONSTRUCTION SAVINGS of $5,329,325 resulted from the "Dry Dock Lock" invented by Arden L. Burnett, an engineer at Navy's Bureau of Ships, Washington, D.C. The employee and his invention are both shown above. Burnett devised a simple, practical way to accommodate the newer deeper draft submarines and ships in existing dry docks without having to excavate dock floors to make them deeper. Invention is similar in operation to the locks of a canal, where ships are moved from one level to another by raising or lowering the water level. For his ingenious solution to this serious problem, he received a $7,455 Superior Achievement Award—the largest cash award granted during F.Y. 1962. (*Navy photos*)

EQUIPMENT SAVINGS totaling $1,760,866 on the purchase of radio antenna kits for army combat vehicles are attributed to John C. White, electronic engineer, Ft. Bragg, N.C. Mr. White (below right) points out new kit he designed which has fewer parts than the old, shown on the left half of the table. His award was $2,390. (*Army photo*)

MANHOUR SAVINGS of $1 million a year result from an improved method of collecting milk samples for testing dairy herds for Brucellosis disease. New method was originated by Dr. Ormond J. Hummon (below) of the Agricultural Research Service, Washington, D.C. His improvement permits one technician to collect more samples in one day than three technicians using the former procedure. Dr. Hummon was awarded $1,510 for his special achievement. (*Agriculture photo*)

Employment Focus

WOMEN IN CIVIL SERVICE

Ever since the beginning of President Kennedy's program in the area of women's rights and opportunities, culminating in establishment of his Commission on the Status of Women in December 1961, interest in their employment and progress has been high. For many years Federal agencies were allowed to specify the sex of applicants desired for filling positions, and for most of the better paying jobs they requested the names of men applicants. A recent ruling has changed this. The statistics on which this article is based represent the situation before that change. Subsequent studies will reflect its impact.

In October 1959, the Civil Service Commission collected statistics on occupations and salaries by sex and early in 1962 we published an analysis of changes which had occurred since August 1954. (Occupations and Salaries of Women in the Federal Service, Pamphlet 62, February 1962.) It was apparent that during that 5-year period women had not made as much progress as men. In anticipation of the increasing emphasis on the employment of women under the President's program, data were collected again as of October 1961. Preliminary data from that survey show that, in the white-collar occupations, the "girls" again made disappointing progress.

A GAIN IN NUMBERS

In the 1961 survey, 498,766 women were reported out of a total of 1,553,061 full-time employees in white-collar occupations. This was 32.1 percent women in 1961 compared with 32.7 percent 2 years before. The number of women employees had increased 4.7 percent, the number of men, 7.3 percent, and the total, combining men and women, was 6.4 percent higher in 1961 than in 1959.

All of the occupational groups increased in size when adjustment is made for changes in classification that occurred during the period between surveys, but for eight groups men had increased at a greater rate than women and for four groups women had decreased despite the increase in men. In ten groups, the rate of increase was greater for women than for men but only 21 percent of all employees were in these groups. Among the other 12 groups comprising 79 percent of all workers, women held a smaller share of the positions in 1961 than in 1959.

FEWER IN PROFESSIONAL POSITIONS

Women in the professions had decreased in number during the 2-year period. The decrease was small, less than half of one percent, but during the same period the number of men in these positions had increased more than 6 percent. There were fewer women accountants, mathematicians, statisticians, and archivists, and fewer women in copyright, patent, and trade-mark work. Even in nursing, which has long been considered a woman's field, their loss in employment opportunities was accompanied by a sharp gain in the employment of male nurses.

In many of the professional occupations which showed gains for women, those gains were very small. Women engineers of all specialities totaled only 248 in 1961, a gain of only 7 positions, while the number of men in these positions increased by 2,159. In the physical sciences, agencies reported 1,454 women in professional occupations, a gain of 112 positions, while the number of men in these occupations increased by almost 6,800. Even in occupations such as attorney and medical officer, where women made gains of almost 7 percent, they were still a small part of the work force in the occupation.

SECRETARIAL GROUP EXPANDS

Among the nonprofessional occupations and groups, the largest increase for women was in secretarial work. Secretaries totaled 44,703 in 1961, an increase of 11,212 in the 2-year period between surveys; clerk-stenographers and reporters totaled 51,012, up 2,571; and clerk-typists, 70,008, up 5,359. General clerical and administrative positions filled by women dropped 9,707 to a total of 43,509 in 1961. For the entire "General administrative, clerical, and office services" group, the number of women increased by 12,766 to a total of 304,099. Men had increased by 27,779 positions to a total of 495,003.

Women in supply work had increased by 2,233 positions to a total of 36,010 in 1961; men had increased by only 842 positions, 37,930 men employees being reported in the group in 1961. The largest occupation for women in the "Supply" group was stock control clerical work with 17,928 women or 71 percent of the positions in the occupation. Two other occupations had more women than men employees: purchasing with 5,578 (76 percent) and sales store operation with 1,703 (66 percent). In other supply occupations men outnumbered women.

SOME NONPROFESSIONAL OCCUPATIONS

Increases were greater for women than for men in the nonprofessional occupations in the legal, personnel, and library fields. In the legal group, 11,929 women were reported in 1961, an increase of 1,741; in the personnel group, 14,624, an increase of 1,174. The library group included 1,383 women in 1961, an increase of 69.

Except for the "Mathematics and statistics" group where women increased by 245 positions and men decreased by 43 positions, all of the other groups had either decreased in the number of women or had increased less in women than in men. In the accounting

QUOTABLE:

PARADOX FOR POLITICIANS

♦ "POLITICIAN" IS ANOTHER WORD in our vocabulary which has been seriously corroded. What a strange paradox it is that in the evolution of our modern democracy we have come to downgrade those who devote their lives to the public service by offering themselves as candidates for elective office. Many such are fine, able men who would distinguish themselves in any career. Some are unworthy, but when they are in office it is we ourselves who are at fault; they are there solely because we businessmen are not. By our own indifference we create the vacuum into which they are drawn. The executive who speaks in disgust of the "dirty politicians" is like the college senior who from the stand yells "coward" at the fullback when he himself has refused to try out for the team. Though it be bad government they create, it is nevertheless our government. If we do not like it, the way to change it is to take the job on ourselves, and prove that we can do it better.

Heaping abuse upon those who do what we will not is unbecoming. Our country will not remain great unless we restore to the holding of public office the dignity and universal esteem which it possessed when the Declaration of Independence was signed.

PAYROLLERS AND BUREAUCRATS

With disarming impartiality we downgrade also those Americans who are in Government, not as elected officers but as civil servants, by calling them either "payrollers," or "bureaucrats," or both.

"Payroller" is intended to mean a soft job that is not needed. When this is true, it is wrong, just as wrong as a businessman's creating a job for his favorite nephew. But in the main, this ugly epithet does great injustice. Government needs brains, and we should help to find them, and to keep them there. Instead, we first ridicule them, and then steal them away. We are indifferent, too, to the fact that the principle of comparability is not applied. At every level of responsibility in Government, the man on the job is paid less than his counterpart in industry.

"Bureaucrat" is often used to mean "nothing between the ears"—pompous, bumbling, unwilling to commit oneself. Oddly enough, we do not apply the same epithet to the men in our company who have the same qualities—and, of course, they are there—but rather reserve it exclusively for government.

"Red tape" usually crops up in the same sentence, meaning that we could get it done much faster if we were handling it. And usually we could—in our own companies. But what we overlook is that there is no close analogy between administration in industry and that in Washington. The founding fathers saw to that. Business is authoritarian. When the boss decides, the rest are supposed to start moving. In government, this is precisely what our system of checks and balances was designed to prevent. No one man is permitted that sort of authority. Policy must be arrived at after group consultations, and that takes time.

When money is spent by government for purposes which we approve, which is seldom, we maintain a discreet and dignified silence. When we disapprove, which is most of the time, we cry out against the "welfare state." This is the most irrational stereotype response of all. We mean, of course, that we deplore the use of public funds in such a manner that the individual's responsibility for his own future is taken away from him, but that is not what we say. Actually, each one of us fervently desires that our government shall promote the welfare of the state, but the man from Mars would never guess it from our language . . . ♦

—from *Patriotism by Invective*, by Clarence B. Randall
THINK Magazine, July–August 1962. Reprinted by permission. Copyright 1962 by International Business Machines Corporation.

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group, 47,095 women were reported, an increase of 1,077 between surveys; men had increased more than twice that much. In the hospital group, the 14,740 total for women in 1961 was 1,122 above the 1959 total while men in these occupations rose by 1,568.

NUMBERS IN LOWEST GRADES DECREASE

In terms of grade distribution of positions, the number of both women and men in the three lowest grades had decreased but the decrease was greater for women. In 1959, 34.8 percent of all women in graded positions were in these grades; in 1961 the total had dropped to 29.8 percent. Men in these grades were only 12.0 percent in 1959; by 1961 they were 10.3 percent. Women in grades 4 through 10 had increased from 62.7 percent of the total in 1959 to 67.2 percent in 1961. Men had decreased during the same period in these grades from 52.4 percent to 49.9 percent. Women in the higher grades (11 through 18) had increased from 2.5 percent to 3.1 percent while comparable positions held by men increased from 35.6 percent to 39.8 percent.

In 1961 a total of 128,105 women were in grades 1 through 3, 289,191 were in grades 4 through 10, and 13,204 had advanced to grades 11 through 18. While the rates of change were greater for women than for men in each of the grade brackets, women were still far behind men in the grades of their positions.

—Flora M. Nicholson

REVOLUTION—

(continued from page 7.)

It is quite common for women to receive lesser pay than men doing the same work in many occupations and in many localities throughout the country. A significant number of women do fill top level positions successfully. However, the proportion is usually much smaller in the upper levels of the occupation than in the occupation as a whole. This latter situation is true both inside and outside of Government—even in the traditional fields of "woman's work."

Some of the rationale advanced for restricting the employment and promotion of women is interesting. We frequently hear that "women have weak motivation and limited aspirations"; "men resent working for a woman"; "women are more emotional"; "women consider themselves only as temporary workers and are not interested in a career"; "women do not like to accept responsibility"; "women have higher rates of absenteeism"; and so on. Like most generalizations, there may be an underlying element of truth in some of these allegations because of individual situations or experiences, but they can hardly be accepted as absolute. The practical and continuing demands of the Nation for a more effective use of its human resources must increasingly play a dominant part in the greater acceptability of women as individuals in all phases of the economic and working community.

III.

ON DECEMBER 14, 1961, President Kennedy, by Executive Order 10980, created the President's Commission on the Status of Women.

The idea underlying such a Commission is, of course, not new. Since 1928 there has been in active operation the Inter-American Commission of Women, now a specialized agency of the Organization of American States, which is specifically concerned with the civil, economic, social, and cultural rights of women in all the American republics. The United Nations maintains a Commission on the Status of Women within its own structure which is concerned with similar rights of women throughout its member nations. In every Congress since 1946, Representative Emanuel Celler of New York, Chairman of the House Judiciary Committee, has introduced a bill proposing a Commission on the Status of Women in the United States. In 1957, the National Manpower Council recommended, as a result of its study of "Womanpower," that such a Commission be established.

While the idea is not new, the actuality is!

We now have an official instrument at the national level, with direct responsibility and necessary resources, to assess the current status of women in this country and to make recommendations to eliminate remaining discriminations and to enable women to make maximum contributions to the general welfare.

The President's Commission on the Status of Women is composed of 26 members who are outstanding in public affairs and women's activities. Mrs. Eleanor Roosevelt is Chairman. Dr. Richard Lester, of Princeton University, is Vice Chairman. Mrs. Esther Peterson, Assistant Secretary of Labor, is Executive Vice Chairman. The Commission has seven working committees, each chaired by a member of the Commission, and each made up of other Commission members and additional persons of nationally recognized competence in the special areas of the particular committee's assignments. In all, there are nearly 100 extremely able and deeply interested men and women engaged in this program.

In announcing establishment of this Commission, the President said:

> "Yet we do well not to be complacent about past progress. Undoubtedly, the ever-advancing frontier in our country helped to break down attitudes carried over from feudal days. But we have by no means done enough to strengthen family life and at the same time encourage women to make their full contribution as citizens.
>
> "If our Nation is to be successful in the critical period ahead, we must rely upon the skills and devotion of all our people. In every time of crisis, women have served our country in difficult and hazardous ways. They will do so now, in the home and at work. We naturally deplore those economic conditions which require women to work unless they desire to do so, and the programs of our Administration are designed to improve family incomes so that women can make their own decisions in this area. Women should not be considered a marginal group to be employed periodically only to be denied opportunity to satisfy their needs and aspirations when unemployment rises or a war ends.
>
> "Women have basic rights which should be respected and fostered as part of our Nation's commitment to human dignity, freedom, and democracy."

The President's general mandate to the Commission is to review the progress of women in our democratic society and to make recommendations as needed for constructive action to advance the full partnership of men and women in our national life. The Commission is to complete its work and submit its report to the President by October 1, 1963.

The seven committees and their areas of concern are:

- *The Committee on Federal Employment Policies and Practices*

This Committee is chaired by Miss Margaret Hickey, Public Affairs Editor of the Ladies' Home Journal.

MISS MARGARET HICKEY
Chairman, Committee on Federal Employment Policies and Practices

MRS. ELEANOR ROOSEVELT
Chairman, President's Commission on the Status of Women

It is concerned with enhancing constructive employment opportunities for women in the competitive service, the excepted service, the foreign service, and the Armed Forces. It is this Committee which initiated the action which resulted in the recent Attorney General's decision.

- *The Committee on Government Contracts*

This Committee is chaired by Dr. Richard Lester, Professor of Economics, Princeton University. It is concerned with the employment opportunities of women in organizations working on Government contracts.

- *The Committee on Social Insurance and Taxes*

This Committee is chaired by Senator Maurine Neuberger. It is concerned with social security, unemployment insurance, and Federal tax laws as they affect the net earnings and other income of women.

- *The Committee on Protective Labor Legislation*

This Committee is chaired by Miss Margaret Mealey, Executive Secretary of the National Council of Catholic Women. It is concerned with an appraisal of Federal and State labor laws dealing with such matters as hours, nightwork, and wages, to determine whether they are accomplishing the purposes for which they were established and whether they need to be adapted to changing technical, economic, and social conditions.

- *The Committee on Political and Civil Rights*

This Committee is chaired by Congresswoman Edith Green. It is concerned with the differences in legal treatment of men and women in regard to political and civil rights, property rights, and family relations.

- *The Committee on New and Expanded Services*

This Committee is chaired by Dr. Cynthia Wedel, of the National Council of Churches. It is concerned with what may be required for women as wives, mothers, and workers, including counseling, training, home services, and arrangements for care of children during the working day.

- *The Committee on Education*

This Committee is chaired by Dr. Mary Bunting, President of Radcliffe College. It is concerned with existing and future patterns of education for women.

The activities of the President's Commission on the Status of Women have aroused a great deal of interest throughout this country and in other countries. It is receiving the full cooperation of many groups. At a recent meeting here in Washington, there were representatives from organizations whose constituency included over sixteen million women.

Its work, I am sure, will go down as a landmark in the history of women.

IV.

WHEN THE PRESIDENT announced establishment of his new Commission, he also said that he wanted the Federal service to be the "showcase" for the rest of the Nation. He requested John W. Macy, Jr., Chairman of the Civil Service Commission, to start working with the various agencies to eliminate any discriminatory practices within the Government so that personnel actions would be taken on the sole basis of merit and fitness.

Mr. Macy immediately directed Federal appointing officials to include "reasons" with their requests whenever they asked for a referral of men only or women only from examination lists. While the Civil Service Commission could not, at that time, overrule such requests, these reasons were wanted for analysis and evaluation.

The result was a drastic decrease in such requests. A few months before, Chairman Macy, in his "quest for quality" program for Federal recruitment, had become concerned with the fact that numbers of high-ranking women eligibles, particularly young college graduates, were getting no chance for consideration for appointment because of incoming requests limited to men. A study was then made of *all* requests coming into the Commis-

sion's Washington office during a 6-month period. This showed that in all job categories, 29 percent were for men only, 34 percent were for women only, and 37 percent did not specify sex. The real significance of these figures is revealed, however, when broken down by grade level: more than half of requests to fill positions above the lowest four grades were for men only, and *94 percent* to fill positions at the three highest regular grades (GS–13, 14, and 15) were restricted to men.

For appointment from the Federal-Service Entrance Examination, the principal avenue for entrance into career professional and administrative jobs, *56 percent* of the requests were for men only, 17 percent for women only, and 27 percent for either. After agencies were required to submit reasons, 99.8 percent of the requests coming in were for either sex.

The profile of women employed in the Federal Government closely parallels that in business and industry. The same social and cultural patterns, the same customs and practices, which have affected the employment and advancement of women generally have operated through the years in the Federal service.

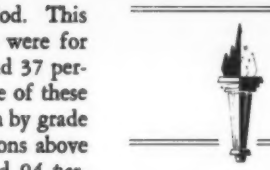
TODAY, THERE ARE NEARLY 600,000 women in the Government, roughly one-fourth of the total Federal population. They are in a wide variety of occupations, both blue collar and white collar. There are paperhangers, mechanics, Foreign Service officers, engineers, rural letter carriers, investigators, and medical officers. They are, however, predominantly in the nonprofessional white-collar occupations; 76.8 percent of *all* women employees are in the lowest five grades of the General Schedule.

In the professional ranks, 40,000, or 18 percent, are women. But 20,000 of these are nurses. The median salary of men holding professional jobs is four grades higher than that of women. In the more than 2,000 "supergrades," at GS–16, 17, and 18, there are just 24 women.

While this situation does not exist entirely, of course, from lack of equal opportunity, it hardly depicts the "showcase" desired by the President.

As a result of the recent Attorney General's opinion, President Kennedy has now directed that all selections for appointment and advancement in the Federal service will henceforth be made without regard to sex, except in unusual circumstances found justified by the Civil Service Commission. The Commission has issued revised regulations to this effect. The only positions that are limited to one sex or the other are a few kinds of custodial and institutional positions, and law enforcement ones requiring the bearing of firearms.

The quiet revolution moves on.



TRAINING DIGEST

TEMPORARY APPOINTMENTS OF FACULTY MEMBERS

A recent Commission action now makes it easier for agencies to utilize the special qualifications of college faculty members by authorizing their temporary noncompetitive appointments to certain types of positions.

The new authority, spelled out in FPM Letter 316–3, June 20, 1962, should be of particular benefit to employee development officers.

Agencies can now appoint bona fide professors and instructors with special qualifications of direct and immediate benefit to the Government to employee development, instructional, scientific, professional, or analytical positions for periods up to 1 year without regard to registers of eligibles.

Employee development officers, in making use of this authority, can appoint and assign such persons to lecture in or conduct intern, supervisor, or executive development training programs. They can use them in courses in which they have high subject-matter competence, such as physics, chemistry, or engineering. And, they can have them develop instructional materials, evaluate training courses, or prepare training plans.

Some key employee development officers have already voiced their firm support of the new authority as a means to improve the quality of Federal training and bring additional professional knowhow to current instruction. Commission officials hope the authority will also provide the appointed faculty members first-hand knowledge of Government operations, problems, personnel needs, and career opportunities—which they, in turn, will transmit back to the campus.

The success of the new authority depends on a full understanding of its purpose. Federal trainers who desire to add faculty members to their permanent staffs must continue to recruit through competitive examinations. The new authority is designed to bring in on a short-term basis a wide variety of outstanding faculty members to the Federal service with two-way benefits for both Government and campus.

Each appointee's overall background must include strong, positive evidence that he has the skills, knowledges, and abilities required for successful performance of the duties of the position to which he is to be assigned. Appointments may be made without prior approval by the Commission except for those to positions in grades GS–16, 17, or 18, or positions in the competitive service paid a salary equivalent to or higher than the minimum rate of GS–16 or paid at PFS–18, 19, or 20. The special

qualifications which are prerequisite to appointment must be specifically recorded in the appointee's employment record. Temporary appointments made for less than 1 year may be extended, but they may not continue for more than 1 year after the initial appointment.

Federal agencies, to get the best use from this new authority, will find that they must plan months ahead. The most competent faculty members commonly complete their plans for summer employment or for leaves of absence months in advance.

NEW TRAINING RESEARCH PROGRAM

With the passage of the Manpower Development and Training Act of 1962, the Department of Labor is now studying problems in the field of manpower requirements, development, and utilization. Through this research they hope to find answers to questions such as:

- In what occupations are there existing or foreseeable shortages of workers for which people should be trained?
- What are the benefits and problems resulting from automation and other technological changes, and how do such changes affect the jobs of workers?
- How can we predict what effect certain changes will have on jobs?
- What practices of employers and unions make it difficult for workers to move from job to job, and what practices facilitate such movement?
- What special problems confront young people in getting work experience and training?

As these research studies are completed, the Department plans to publish them.

GRADUATE DEGREES

The question of whether Federal agencies should grant academic degrees was brought up in the 87th Congress recently. The Department of Defense had requested authorization for the Judge Advocate General's School to grant graduate legal degrees and credits. The bill was supported by the American Bar Association and opposed by the American Council on Education. No final legislative action was taken.

No Federal agency, operating a school for its civilian employees, confers academic degrees. Degrees are granted by a number of military institutions, such as the military academies. The Department of Commerce grants bachelor's degrees to student maritime officers.

McARDLE TO ADMINISTER NIPA PROGRAM

Dr. Richard E. McArdle has been named by the National Institute of Public Affairs as its Executive Director. In this position he will work with universities, the Commission, and other Federal agencies to improve educational opportunities for Federal employees. He will establish and administer a system of scholarships for graduate education for Government employees under a $2½ million fund grant from the Ford Foundation.

Dr. McArdle was formerly Chief of the U.S. Forest Service, and a 1961 winner of the President's Award for Distinguished Federal Civilian Service.

BASIC STENOGRAPHIC AND TYPING TRAINING

The Commission since 1958 has pointed out to agency representatives the conservative attitude of Congress toward *basic* stenographic and typing training. The fact that most beginning students study these subjects at their own expense and on their own time does, of course, affect public attitudes toward such training. Congressional attitude has been expressed in part by an appropriation rider prohibiting the Department of Defense from making payments to educational institutions for the training of "file clerks, stenographers and typists" occupying positions in grades GS–5 and below.

The Training Act and Commission regulations do not forbid basic stenographic and typing training. Such training may be very necessary under specific circumstances. For example, if a group of clerical employees is about to be separated because of automation, and if the organization is finding it difficult to recruit typists, the agency may be justified in providing beginning courses in typing to those clerks who have the potential to become good typists. In fact, Congress has supported training of this type through passage of the Manpower Training and Development Act.

When basic stenographic and typing training is called for, Federal agencies should use Government facilities or free non-Government facilities if possible.

A recent informal check with Federal agencies showed that in the last fiscal year none of them had provided any kind of basic training in typing or shorthand to any of their employees.

TRAINING NOTES

Ordnance Management Engineering Training Agency (OMETA) is continuing to provide training in the Department of the Army. OMETA, formerly part of the Ordnance Corps, is now assigned to the Army Materiel Command.

Overtime compensation, says the Comptroller General, may be paid for official work performed in addition to 40 hours of in-service training performed in any workweek (CG Decision B–147868, January 23, 1962).

A new Educational Institute has been established by General Services Administration to provide interagency training courses in a number of different fields. The new institute's director is Dr. Charles A. Ullmann, formerly director of CSC's Management Institutes.

—Ross Pollock

INVENTORS—

(continued from page 11.)

London, Conn. Here is an inventor who undoubtedly could have made history in the perfection of television or in human physiology had he chosen to stay in one of these fields in which he made many important contributions. Instead, he chose to concentrate his efforts on the science of underwater acoustics. However, it wasn't much of a science when he came to it. During the past 20 years, and largely through his work, an important science has emerged and is reaching maturity.

Dr. Horton has devoted virtually a lifetime to the study of underwater sound. During World War I, as a member of the Research Laboratories of the Western Electric Company, he was one of a group of civilians recruited by Navy to undertake development of submarine detection devices. Working at a Navy experimental station, he was one of the first to employ the vacuum tube in connection with waterborne sounds. Between the two World Wars he took an active part in developing new communication equipment such as multiplex telephone and telegraph systems using carrier currents, equipment for the transmission of pictures, and a television system demonstrated in 1927. In 1933 he returned to the Massachusetts Institute of Technology, from which he had graduated in 1914, and engaged in studies relating to the application of electrical engineering techniques to problems in physiology and medicine.

With the outbreak of World War II, Dr. Horton was asked by the National Defense Research Committee to join the staff of the Underwater Sound Laboratory in New London. At the request of Dr. Vannevar Bush, he remained there until the end of the war, except for short interim assignments in England and Pearl Harbor. At New London he invented numerous sonar detection devices that found their mark in the antisubmarine warfare struggle for control of the Atlantic, and later, in the submarine offensive in the Pacific. He was personally responsible for the Laboratory's initial research and development effort in the field of underwater acoustic communications, and it was his pioneering work in this field that provided the basis for USL's subsequent development of the highly successful underwater telephone.

DR. J. WARREN HORTON, Technical Director, Navy Underwater Sound Lab, New London, Conn.

Hailed as the "father of modern sonar," he holds 56 patents in sonar and electrical communication. Sonar, important to World War II naval operations, is an electronic system for underwater detection and location of objects such as submarines, ships, and icebergs. He also was a pioneer in underwater acoustic communications. (*Navy photo*)

As the Laboratory's Chief Research Consultant and, since July 1959, as Technical Director, he has made countless contributions to research and development in antisubmarine warfare. His book, *Fundamentals of Sonar*, is the first and only comprehensive treatise on the subject.

To date Dr. Horton has been granted 56 patents for inventions in the fields of electrical communication and sonar. In March 1958 he received the U.S. Navy Distinguished Civilian Service Award, and has received national and international recognition.

CIVIL SERVANTS LAUNCH NEW INDUSTRY

There have been occasions in history in which a man, either by himself or assisted by others, has invented something which proved adaptable to so many uses that a whole new industry was quickly launched. This happened in the Department of Agriculture in 1941.

FOUR OF FT. MONMOUTH'S MANY INVENTORS

MARILYN LEVY, Photographic Research Chemist, Applied Physics Division, U.S. Army Signal Research Lab, Ft. Monmouth, N.J.

The current patent champion of the Signal Lab, she has nine patents in the photographic processes and materials field, and has been a pioneer in developing prints without the use of chemicals. (*Army photo*)

DR. ARMANDO A. GIARDINI (left) and JOHN E. TYDINGS (right), Institute of Exploratory Research, U.S. Army Signal Research Lab, Ft. Monmouth, N.J. These two young civil servants have teamed up to invent a pressure chamber, now patented, in which graphite is converted to diamonds. This achievement has been matched by only one other organization (non-Government), and then under more difficult and expensive circumstances. In addition to the production of diamonds, some of gem quality, these inventors have made cubic boron nitride, a material unknown in nature but equalling diamonds in hardness—as well as new forms of tantalum nitride, manganese carbide, iron carbide, and chromium carbide. (*Army photo*)

DR. EDUARD A. GERBER, Director, Solid State and Frequency Control Division, U.S. Army Signal Research Lab, Ft. Monmouth, N.J.

Temperature variations in radio operations can cause distortion of transmitting crystals, resulting in frequency drift. He has invented a crystal attachment that permits close frequency control. (*Army photo*)

WILLIAM N. SULLIVAN, USDA entomologist, is the inventor who started a revolution in aerosol packaging. He and his associates first developed pushbutton dispensers for insecticides. Now the containers are used for a great variety of products. (*USDA photo*)

William N. Sullivan, Jr., and other agricultural scientists at Beltsville, Md., developed a container-dispenser for insecticides. Their package contained liquefied gas under pressure, which, at the pressing of a valve, propelled the insecticide into the air in a fine spray. Insecticide aerosols were immediately adopted by the Armed Forces for the protection of military personnel from disease-carrying insects, especially malaria-carrying mosquitoes.

At the end of the war, insecticide aerosols were promptly put to use by the civilian population. The dispensers proved so efficient, convenient, and well accepted that this type of packaging was adopted for many other products. The development of cheaper, lightweight containers, more efficient valves, etc., has made these products standard household items in more than 250 varieties as diverse as insecticides, room deodorants, mildew preventives, paints, hair sprays, shaving creams, perfumes, glass cleaners, and lubricants. Few people would ever associate the swirled mound of whipped topping on their dessert with the Federal civil service!

Mr. Sullivan, a career entomologist with Agriculture, in 1945 received the Achievement Award of the Chemical Specialties Manufacturers' Association, a thank you from a grateful industry.

He has some 80 scientific publications to his credit and holds 22 patents. At present he is working to eliminate the spread of insects that hitch-hike rides on international flights. This work is taking place at the Agricultural Research Center in Beltsville—itself the home of so many taken-for-granted achievements.

HE STARTED A REVOLUTION

Jet designers, following World War II, were completely baffled because their "supersonic" planes hardly ever flew as fast as they were supposed to. Convair's F–102 was a good example. This delta-wing jet fighter, designed to fly faster than the speed of sound, wouldn't even *approach* the speed of sound, let alone crash the barrier and go on beyond. The stakes were high: the Nation's air defense plus millions of dollars that had been poured into the plane.

Faced with this, Convair designers decided in 1954 to gamble on the then unproved theory of a 34-year-old civil service engineer of the National Advisory Committee for Aeronautics, Richard Travis Whitcomb. In 1951 Whitcomb had told the entire aircraft industry why their planes wouldn't break the sound barrier. They had been computing the total air drag of the plane by totaling up the drag of its component parts. Whitcomb, in his own theory which he called Area Rule, told them that the drag on any part differs, depending mainly on where it is located and what other parts are near it—that it is this *relationship* of one part to another which must be computed in determining total drag.

But Whitcomb had gone beyond mere theorizing. He had applied his Area Rule and had designed an ideal shape for a supersonic plane. However, his views had been coolly received by aviation companies; that is, until Convair's trouble with the F–102 occurred some 3 years later.

Upon deciding to follow Whitcomb's advice, Convair builders redesigned the F–102 to make it conform to Area Rule. They gave it a longer nose. Then they pinched the fuselage at the "waist" position, and built a slight bulge into the tail section. The very first time the new F–102 took to the air, it crashed the sound barrier *while still climbing*. And, it flew more than 100 m.p.h. faster than expected. The young civil service engineer had been right!

Other aircraft builders switched quickly to Area Rule. Grumman reshaped the F–11–F. Chance-Vought redesigned the F–8–U. And today, every supersonic plane in the air or on the drawing boards conforms to Area Rule—the greatest advance in aviation since man first broke the sound barrier.

Almost overnight Whitcomb became a hero in aviation circles. He won the coveted Collier Trophy, presented in December 1955. The Air Force Exceptional Service Award followed, as did NACA's Distinguished Service Medal. In 1956 Worcester Polytechnic Institute conferred an Honorary Doctorate of Engineering on him and the Washington, D.C., Junior Chamber of Commerce selected him as one of ten outstanding young men of the Nation.

When the National Aeronautics and Space Administration took over the work of NACA, Whitcomb became a NASA employee. Today he works at the Langley Research Center, Hampton, Va., where he applies the same ingenuity to man's stretching his wings—beyond the sonic barrier to the edges of the solar system. (*over*)

RICHARD T. WHITCOMB, engineer at NASA's Langley Research Center, Hampton, Va., showed jet plane builders why their planes would not break the sound barrier. He also showed them how to achieve supersonic flight. His concept, called Area Rule, revolutionized aircraft design. (*NASA photo*)

JAMES S. ALBUS, engineer at NASA's Goddard Space Flight Center, Greenbelt, Md., developed a Digital Solar Aspect Sensor for satellites. The sensor measures the satellite's exact position in relation to other luminous space bodies and transmits such information to ground stations. (*NASA photo*)

YOUNG MAN MAKING HIS MARK

NASA, as everyone knows, is world famous for its space flight achievements. Not so well known, however, is the simple fact that many of these achievements result from the hard work and sharp thinking of its own employees.

James S. Albus is a fine example. In the 5 years since he received his B.S. degree in physics from Wheaton College, Ill., he has already received the highest cash award, $1,000, made to an employee of NASA's Goddard Space Flight Center, Greenbelt, Md.

Albus, an engineer in the Flight Data Systems Branch, had experimented for many months with methods of measuring the angle of a light source relative to a satellite in orbit. The proper operation of many scientific satellites is necessarily dependent on extremely accurate positional information; that is, the satellite's exact tilt with reference to the earth, sun, stars, etc.

Working on ways to achieve accurate measurements of satellite positions by measuring the angles of light received by the satellite from the sun, stars, and other luminous space bodies, Albus developed a Digital Solar Aspect Sensor. His device not only measures angles accurately but also codes such information into digital form for transmission to ground stations.

Explorer X was equipped with this sensor, and it worked quite well. Advanced digital aspect systems are now under development at Goddard Space Flight Center. These systems will be capable of operating with the sun in the daytime and the moon at night. They will also incorporate standard infra-red earth horizon detectors for either day or night operations. Many satellites and space probes since Explorer X have carried along some variation of Albus' "little black box"—a significant contribution from a young civil servant who just a few years ago was a student on the college campus.

OUTSTANDING AF INVENTOR

Henry W. Seeler, a mechanical engineer at Wright-Patterson Air Force Base, Ohio, has probably contributed more than any other person to making breathing possible and comfortable at high altitudes. His designs for oxygen masks and breathing regulators are used throughout the whole world of aviation. Going beyond just making breathing possible, Seeler has developed unique resuscitators for restoring it.

Among Seeler's most outstanding inventions is his mouth-to-mask resuscitator. This invention is a modification of the centuries-old method of mouth-to-mouth resuscitation. But it has some decided advantages. It avoids the lip-to-lip contact between the operator and the casualty, and it avoids nausea and infection. Most important of all, however, it avoids hyperventilation for the operator. This is a condition of "over-breathing" which leads to an abnormal loss of carbon dioxide from the blood stream.

Thousands of Seeler's mouth-to-mask resuscitators are in use—as are many other masks and breathing regulators he has developed. In this field he holds some 24 U.S. patents, and has won numerous honors and awards, including the Thurman H. Bane Award, 1952, from the Institute of the Aeronautical Sciences, and the Air Force's Outstanding Inventor Certificate in 1961.

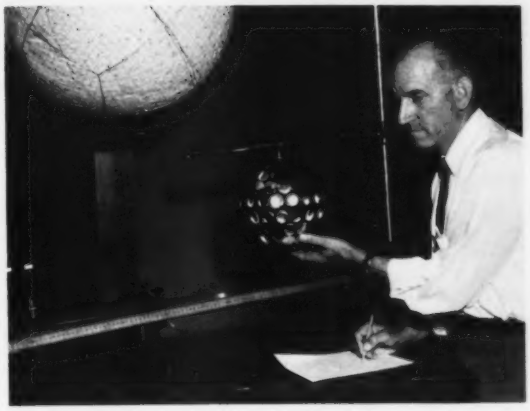
BREAKTHROUGH IN SATELLITE COMMUNICATIONS

The Air Force has a mighty concentration of civil service inventors at Wright-Patterson Air Force Base, Ohio. Henry W. Seeler is one of them; Ylo E. Stahler is another fine example.

Mr. Stahler is an electronic engineer in the Avionics Division. He hold 4 patents and has 2 pending.

Early in 1958, he began studies to determine possible means to increase the efficiency, through improved shape

HENRY W. SEELER, Air Force inventor, is shown demonstrating his mouth-to-mask resuscitation kit and methods which have important advantages over mouth-to-mouth methods. (*AF photo*)



YLO E. STAHLER, Air Force electronic engineer, experiments with his passive communications satellite model—a sphere containing many lenses which focus energy waves onto reflectors which, in turn, bounce back the energy. (*AF photo*)

and design, of passive communications satellites, such as ECHO I. Available designs permitted considerable energy loss in reflected radio signals, and he wanted to achieve a gain in reflected signals without imposing a need for complex schemes to control angles of reflection. His work led to the discovery of the lens reflector element—a major breakthrough in passive satellite communications.

Stahler discovered that if a reflector is positioned behind a lens, energy striking the lens is focused on the reflector and returned. By use of this focusing process, high gains can be achieved. He adapted his unique optical lens devices for performing experiments and measurements at light frequencies. With proper instrumentation, the same basic techniques are equally applicable to the electromagnetic spectrum of frequencies.

Air Force experts predict that this employee's contribution will have a significant effect on communications of the future. For his work, Mr. Stahler received Air Force's Outstanding Inventor Award in 1960 and recently received its Award for Scientific Achievement.

CONCLUSION

These few sketches of Uncle Sam's civilian inventors—representing but a cross-section of similar talent found in virtually every Federal agency—illustrate some of the many ways in which career civil servants have contributed to our Nation's welfare and progress. New technology, new products, new industries, new weapons for defense, and many new promises for tomorrow: these are part of their continuing endowment to the American people.

In truth, there are those men and women who have literally changed our lives. And, standing tall among the tallest are . . . civil service inventors.

COMMUNICATIONS—

(continued from page 3.)

progress. The Commission has informed the heads of departments and agencies by bulletin that Federal Employee Pay Regulations give agency heads full authority to change working hours if they determine that the regular tour of duty would seriously handicap the organization in carrying out its function or that costs would be substantially increased by adherence to rigid schedules.

Travel to Professional Meetings. Some time ago, the Commission acted on a recommendation of the Astin Panel by publishing a policy statement on attendance of Federal employees at scientific and professional meetings. The letter suggested fuller use of *existing* authority.

Manpower Utilization. This is, first and last, an agency concern and an agency responsibility. But the Commission, in its inspection program, is focusing attention on manpower utilization. Our inspectors have been instructed to give increased attention to what agency management is doing to insure the maximum utilization of manpower resources. In all of our inspections at research and development installations, we are looking to see whether there are any rules, regulations, policies or practices which in any way inhibit the accomplishment of the research and development mission.

Communication With the Public. The Astin Report emphasized the need for improvement of the public image of the Federal Government as an employer of scientists and engineers, through more aggressive and imaginative communication to the public of Federal research opportunities. We are making an all-out effort to assist agencies in this respect.

CALL TO ACTION

The public is paying $12 billion annually for Federal research and development projects, in the full appreciation of the fact that these projects are necessary.

As stewards of the public's trust we cannot permit the waste of public funds nor the ineffectual results that can stem from poor management and poor administration.

Those of us who manage human resources must bear in mind that our job is to facilitate, not to obstruct, agency missions. We must fully utilize the total resources of the laws and regulations that exist. This means that we must know them thoroughly ourselves, and that we must make them clearly known to our scientific and technical personnel.

A great many of our personnel-management problems can be solved by our knowing and using the instruments which are at our disposal.

We demand and get the *impossible* from our scientists. We must therefore perform the *possible* in administration.

The People and the Public Service:

THE PARTNERSHIP THAT WON THE WEST

A 19th Century Geological Survey team charting the western landscape.

Sometimes there are national goals so enormous in scope and difficult of attainment that the people look to their central Government for bold leadership and action. The challenge of space is one of today's best examples. In another year, it was the challenge of the western frontier. In considering that story, from the standpoint of Government participation, we in the Federal service can gain a better perspective of our own roles in today's vital programs.

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by JAMES C. SPRY
Public Information Office
U.S. Civil Service Commission

and

HARVEY H. SHAPIRO
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Department of the Interior

IF YOU HAD LIVED in colonial America on May 14, 1804, you could not have realized the great significance of that very day.

You might have danced the quadrille that evening. You might have sipped spiced tea with the ladies, or ale with the men, and surely you would have discussed what was on every tongue—the recent land purchase from France.

Two weeks earlier the flag of France had been lowered in the public square at New Orleans. The American flag, with its 17 stars and 13 stripes, had been proudly raised to announce the Louisiana Purchase, arranged by President Jefferson and his Ambassador in Paris: $15 million for a million square miles of land west of the Mississippi—an area five times the size of France, stretching from the Gulf of Mexico northward to British America (Canada), and from the banks of the Mississippi westward to the Rockies.

The great heartland of America had been bought, but no one knew for sure what had been purchased. In most of it, the only footsteps had been those of the red man.

Was this Jefferson's folly? And was it his folly, too, that he was sending his private secretary, Captain Meriwether Lewis, to lead a small expedition into this unknown country?

You heard the ladies whisper of shaggy monsters that would surely devour the men. You also heard many of your companions scoff at the possibility that Lewis and his former Army associate William Clark might discover mountains three times the height of the Appalachians.

You heard all this, and much more, yet you could not have realized that on that day the Lewis and Clark party had left the village of St. Louis to begin one of the Nation's most important journeys—to begin, also, the story of the winning of the great American West.

COMMEMORATION

This is one of America's greatest stories: one in which there are many heroes and more than an occasional villain—but always a story of a pioneer people and their Government working together to fulfill their destiny on the land.

This article, written in commemoration of the 100th anniversaries of the Homestead Act, the Transcontinental Railroads Act, and the Land Grant Colleges and Universities Act—as well as the 150th anniversary of the establishment of the General Land Office—presents some of the highlights of that story. Included are many sketches of the Nation's early public servants—the people who made and carried out the Government's policies and laws which made possible the winning of the West.

INTERNATIONAL RACE FOR EMPIRE

In 1804 the international race for empire was in full swing. Jefferson felt that the actual possession, settlement, and defense of the Louisiana Territory might never be possible unless the American flag was hoisted in the far northwest corner of the land, perhaps from an impregnable fortress at the mouth of "the Great River Oregon." Sailors had told of seeing where a great northwest river emptied into the Pacific from the shores of a land vaguely known as Oregon. No white man knew the source of such a river, and many thought it might be where the mighty Missouri cut across the continent and said farewell to the land.

It was known that the British to the north were already searching for that river's outlet to the sea, and that Spaniards were using a place called California as a base of operations from which to explore the coast northward. But, it was not known what nation—or if *any* nation—claimed that part of the New World.

Jefferson had long felt that the United States could not survive if confined to the east. The young Nation could not afford powerful rivals to the west; hence, the Louisiana Purchase—and hence, the Lewis and Clark expedition with orders *to claim for the United States* all the vast area between the Louisiana Territory and the mouth of "the Great River Oregon."

Jefferson must have envisioned a coast-to-coast Nation!

FROM COLONIES TO CONTINENT

Two years and four months after Lewis and Clark had left St. Louis, they returned with their men and were given a mighty welcome. They had traveled all the way to where the "Great River Oregon" (Columbia River) ran seven miles wide and dumped into the Pacific. There they had found no flags or forts of other nations, and so had planted a flag and built a fort of their own. America's claim to the Pacific Northwest was secured.

They had walked, paddled canoes, or ridden Indian ponies every step of the way from St. Louis northwestward to what is now Bismarck, N. Dak., and westward to the Pacific Ocean, and back—8,200 miles of wilderness trail. They had collected many botanical and zoological specimens to bring back to Jefferson, and had kept detailed notes, made maps along the way, and had named virtually every river, mountain, and unusual earth formation they saw. For the most part, they had entered on their maps the names bestowed by local Indians. In the absence of such names, they paid tribute to their wives, sweethearts, relatives, and friends. And, despite their dangerous encounters with the elements, hostile Indians, and savage animals, they had lost only one man. Appendicitis, historians believe.

People no longer thought of the Nation as just so many colonies. It was now a continent, and soon new maps began to appear, giving a new westward dimension to the country. Stories of the vastness and unheard of riches of the new land were listened to attentively, and soon other expeditions and trading companies began to head west. In fact, all westward migration across the plains and mountains dates from the return of Lewis and Clark.

The trail to America's future had been gloriously blazed—with the steadfast vision of a great President and the courage of Lewis and Clark and their 27 men.

THE GREAT SOUTHWEST

Spanish explorers, using New Spain (Mexico) as a base, had roamed around the Southwest during the 16th and 17th centuries in quest of the fabled lost cities of Cíbola where the rooftops were rumored to be made of gold and the doorsteps set with precious stones. Ranging as far east as the Missouri, the explorers never found the Lost Cities, and they established no permanent trails. One such expedition founded Santa Fe in 1609, but for the most part, the Spaniards left the land to the wildlife and to the Indians.

American pioneers began to get excited about the Southwest in the early 1800's. Hardy trappers began to follow the rivers, trapping beaver, otter, and mink, and trading with the Indians—cheap trinkets and bright cloth for gold nuggets.

The trappers learned from the Indians of the faraway city of Santa Fe, and also the legend of the Lost Cities of Cíbola. Could Santa Fe be the depository of the Indian gold, they must have wondered. The trappers brought the question, as well as their rich haul of furs, back to the frontier and to the fur-trading center, St. Louis. And, in the years that followed, pioneer trade hunters looked to the Southwest, as well as the Northwest, as a possible land of opportunity.

THE HISTORY OF THE SOUTHWEST is filled with many names. Among them is Captain Zebulon M. Pike, an Army officer who in 1806 led a small survey team into Mexico. The group was captured by the Spaniards and charged with being invaders. The lines of the Louisiana Purchase were vaguely drawn, but Pike finally convinced his captors that he had come to survey possible trading routes on what he thought was U.S. territory—not to conquer and annex that which belonged to Spain. The Spaniards released him and his men, but only after taking them on a tour of a few Mexican cities, obviously to impress the Americanos with the might of New Spain.

Though he had journeyed to establish a trail, Pike left none. He did, however, explore part of the Rockies and gave his name to one of the peaks.

William Becknell, who came next, was far more successful. A private entrepreneur, he blazed and established what came to be known as the Santa Fe trail—from Franklin, Mo., to Santa Fe. He proved what others had said could never be done—that traders with wagon trains could get through to the southwest lands, despite the heat, waterless miles, and hostile Indians.

Prior to Becknell, no wheel had ever turned beyond the Missouri River with a far west destination. And, upon Becknell's success, the U.S. Government decided to make it easier. Congress authorized a survey to be made from the Missouri River to New Mexico, and treaties were negotiated with the Osage Indians for the safe conduct of traders and travelers. However, the Arapahos, the Kiotas, and the Shawnees had signed nothing. Neither had the Comanches and Pawnees. They had smoked no pipe of peace with the encroaching whites.

MORE AND MORE the trail became a path of commerce, despite the fact that a whole wagon train was occasionally wiped out by marauding Indians. The vengeance of the whites was just as savage as that of the Indians. Whole Indian villages were burned to the ground and fleeing squaws and papooses were shot down on the run. And, it was not always the red man who started trouble on the trail; many whites took the view that the only good Indian was a dead one.

Still, commerce on the trail continued; in fact, it flourished. The trail became a road, and the road opened adjoining areas to trade. Then, real trouble began.

New Mexico (still Mexican territory) elected a new governor who did not like the Americanos, though he did like money. First, he levied a $500 tax per wagon on traffic from the north; then he levied a tax on goods. The trade continued, with the Americanos merely raising the price of the goods sufficiently to offset the taxes. The Mexicans themselves got poorer but their governor got richer. And the Americanos weren't hurt at all.

An edict of 1824 forbade foreigners to hunt or trap in Mexican territory. Then, the Mexican governor began throwing Americano traders in jail and taking their merchandise. These and other episodes caused bad feelings to brew between the two nations.

In 1836 Texas raised the Lone Star flag and declared its independence from Mexico. In 1841 a group of around 300 Texans marched into New Mexico to pass their independence on to their neighbors. Their neighbors, however, considered them invaders and captured them. There was a great uproar in the United States about the "wrongs" suffered by the invaders, and the bad feelings between the two nations reached the boiling point.

In 1846 the United States declared war on Mexico. General Kearney, leading the American army, captured Santa Fe without a fight and marched on to plant the Stars and Stripes in California.

The Santa Fe trail had served a two-fold purpose. It had opened the great Southwest to trade—and thence to annexation.

JOHN CHARLES FREMONT—EXPLORER

Additional exploration had to precede the settling of the West. Some exploring was done privately by hunters and trappers, but the real bedrock work, the systematic mapmaking and measurement-taking, was done by the Federal Government through men like Lewis and Clark and John Charles Fremont.

Fremont had the good fortune to marry the daughter of Senator Thomas Hart Benton of Missouri, one of the most influential men in Washington. Benton had long cherished the dream of carefully exploring the West. Through his influence, Fremont—already in Government service as a topographic engineer—was put in charge of five expeditions west.

In 1843–44 Fremont mapped what became the great Oregon trail, from Independence, Mo., to what is now the State of Washington. Then his journey carried him over the summit of the Sierra Nevada Mountains in dead winter. Getting over the Sierras was a fearsome achievement, and the men were reduced to chewing saddle leather toward the end. But they finally made it, and their scout, Kit Carson, recognized the lovely valley of the Sacramento spread out beneath them.

Fremont had seen the Great Salt Lake and had sailed on it. He had seen the Colorado, the Arkansas, and the Rocky Mountains. But, he fell in love with California and was there when the Mexican War broke out. Getting involved in some complicated military matters, he ended his third and most promising expedition in the disgrace of court-martial. Still, he bounced back and the United States reaped a vast benefit from his five explorations.

THE U.S. TOPOGRAPHICAL ENGINEERS

Fremont worked for one of the most colorful of Federal agencies opening the West. The U.S. Army Corps of Topographical Engineers, short-lived though it was (1838 to Civil War), mapped most of the West, charted trails, determined locations for military posts, saw military service, explored for minerals, and did some surveying.

Besides their regular duties, men of the corps were ordered to bring in all sorts of scientific specimens and data from the West. And, by so doing, they advanced scientific knowledge not only in their own country, but also in Europe where they were likewise well known.

Officers of the corps, mostly West Point graduates, amassed a rich collection of maps, reports, specimens, journals, papers, and statistics. Their reports did much to inform the Nation on the condition of the West, and stimulated countless families to settle in the new lands.

Before selling western tracts or giving them to homesteaders, the Government first had to survey the land.

INDIAN AFFAIRS

The Constitution gave the Federal Government the right to control commerce with the Indian tribes. In 1824 the Bureau of Indian Affairs was organized under the jurisdiction of the War Department, with the dual responsibility of Indian lands and Indian people.

The Government's policy of 1825 was that of establishing peace and permanent boundaries with the Indians. An admirable policy, it was doomed to failure by the course of history. The inevitable westward expansion made the job of the Bureau increasingly delicate.

The Bureau operated at the grassroots level through employees known as Indian agents—men who were called upon to be all things to all people, especially to the Indians. The agent had a strange and complex job. He had to be able to stand firm in the face of danger, to secure what the Government wanted in negotiating treaties and agreements, and if he was up to the calling, perhaps the Indians in his charge would come to love and respect him, as they did in many instances. It was his job to keep them off the warpath, and to assure them that they were getting just treatment from the white man. It wasn't always easy.

Indian warriors, photographed in 1890.

MANY INDIAN AGENTS carved their names deep into American history. William Clark, of the Lewis and Clark expedition, took up the calling in 1825 and concluded peace treaties with numerous tribes on the Mississippi. T. J. Jeffords was an Indian agent in Arizona in 1872. He was the only white man who could get close to Cochise and walk away alive. Jeffords knew the Indian temperament and had the human understanding that caused the Indians to trust him implicitly. Through Jeffords' efforts, Governor Safford of Arizona was able to conclude a treaty with Cochise.

Thomas Fitzpatrick's story is indicative of the adventures of the agent. In 1846 Fitzpatrick, a seasoned trapper and guide, was appointed agent to the Commanche, Apache, Kiowa, and Arapaho Indians. On the way to his territory, he lost five soldiers of his party to Indian attacks. Needless to say, he did not assume his new duties without prejudice. Nevertheless, he was able to win over his charges (partly through elegant feasts), and his efforts to stop traffic of alcohol with the natives were successful. He traveled about his territory and negotiated treaty after treaty.

In 1849, Superintendent of Indian Affairs Mitchell, Fitzpatrick's superior in Washington, decided to try to develop a general treaty with all the plains tribes. Fitzpatrick was called to Washington to advise, and in 1851 Congress authorized $100,000 for the purpose of "holding treaties with the wild tribes of the prairie."

Fitzpatrick invited all the tribes to assemble at a great council at Fort Laramie. The thousand tribesmen who showed up for one of the most important Indian councils ever held were elegantly dressed in their best feathers and buckskins. On September 17, 1851, the treaty was signed. It provided for lasting peace between the whites and the tribes, and also between the tribes themselves. The United States was given the right to establish roads and army posts on Indian land. In return, the Indians were promised $50,000 worth of goods to be distributed over a period of years.

ONE OF THE STRANGEST SIGHTS in American history took place when the first wagons arrived bringing the goods. Great chiefs decked themselves out in pantaloons. Others wore generals' uniforms, with gilt swords at their sides. Uniforms, ruffled underwear (worn as outerwear), and painted faces presented a colorful finale to this successful bit of new world statecraft.

In his final report to Washington, Fitzpatrick recommended that the Indian reservations be opened to trade. He felt that trade could bring the Indian nearer to the ways of the white man, and could provide a better pastime than hunting and warfare.

Kit Carson was another agent employed by the Bureau. As every schoolboy knows, he became a legend. For 7 years prior to the Civil War, Carson was "Father Kit" to the Utes and Apaches around the Rio Grande River. Although there was some violence during these

years, Carson was able to maintain fairly good order by a combination of kindness, understanding, and intelligent disbursement of gifts.

It is unfortunate that not all agents were of the same high caliber as were Carson and Fitzpatrick. Some few were downright dishonest, using their positions to take economic advantage of the Indians. Communications were slow in those days, but the Bureau took swift action when it learned that one of its employees was playing a rotten game.

In 1849 the Bureau was transferred from the War Department to the newly formed Department of the Interior, where it is still located. The Bureau now safeguards 53 million acres of Indian land with good land policies, and works to develop the potentialities of its 350,000 Indians and Alaska natives.

In 1877 the Bureau employed around 650 people. Among these were many Indians who worked for the Bureau's agencies on Indian lands. Payroll personnel must have enjoyed keeping ledgers for names such as Kaih-paya, Red Bird, Two Bears, Three Bears, Racer, and No Relations.

WOMEN WERE ALSO EMPLOYED by the Bureau for service on the Indian lands as teachers and nurses more than a hundred years ago! And so were doctors, wagonmasters, blacksmiths, and many others with needed skills.

No Federal agency involved in the western settlement had a more difficult or delicate job than the Bureau of Indian Affairs—and no Federal agency has made a nobler contribution to the winning of the West.

OUT FRONT WITH THE ARMY

Kit Carson served Uncle Sam in more capacities than Indian Agent. He often worked as a Federal scout, as in the case of his employment by Fremont. Most scouting, however, was military scouting in the employ of the U.S. Army. In putting down Indian uprisings and building forts across the new lands, the Army needed men who knew the ways of the natives as well as the lay of the land.

In all, there were probably several hundred scouts who worked with the Army to make the West safe for settlement. And, some few were Indians who, for some reason, had decided to scout for Uncle Sam—perhaps to keep a watchful eye on what he was up to in red man territory.

SURVEYING THE WEST

After the explorers had taken a good look at the great American West, it was up to surveyors to stake it out—township by township. The Government took on the job and carried it out by contracts with those qualified surveyors whose bids were lowest. This method prevailed until about 50 years ago, when the Government organized expert survey crews of its own.

Surveyors on the Colorado River, 1889.

All public lands were (and still are) surveyed in the rectangular survey system. The township is the basic unit. Each township is divided into 36 sections of one square mile—each containing 640 acres. Each section may be divided into the familiar "quarter section," (160 acres each), or further subdivided.

Surveyors were required by the Government to keep detailed field notes of their work in determining townships and sections. All field notes are kept in Washington by Interior's Bureau of Land Management. Almost any piece of land not in the original 13 colonies can be looked up in the hundreds of hand-written volumes of field notes.

On February 18, 1868, Wilfred F. Douglas, surveying township 1N in Range 3E near the Gila and Salt Rivers in what is now Arizona wrote: "A settlement called Phoenix was formed in the Northeast part of the township during winter of 1867–68. It now contains about 50 persons who have displayed great energy in the construction of their irrigation ditches. . . . The settlement, though young, bears every evidence of thrift and prosperity."

FEVER THAT SWEPT A NATION

By 1848 a few wagons had traveled across the vast western country, already called the Great American Desert—the land explored by John Fremont. In faraway California, recently taken from Mexico, a few villages sprang up, populated mainly by people who had been Mexican nationals. San Francisco was one such village. Sutter's Fort, at the California end of the trail from the East, was the only American stronghold in the territory. And, not many people from the East were attracted to the faraway land. There was ample land along midwest rivers to satisfy anyone who wished to purchase a homestead.

One magic word changed that—gold! Like a "yellow fever," spreading many times faster than the real disease, the word of the discovery in 1848 at Sutter's mill reached the East. The word was on everybody's tongue and the great rush to the far West was about to begin.

(*To be concluded in next issue of the* Journal.)

LEGAL DECISIONS

VETERANS' APPEALS—HEARING

Williams v. *Zukert, et al.,* Supreme Court, May 21, 1962. The Supreme Court granted certiorari in this case. The Court of Appeals, D.C., had ruled that plaintiff's statutory and procedural rights were not violated by the failure of the agency to produce for cross-examination at the hearing the persons whose affidavits or statements supplied the factual basis for dismissal. The case will probably be argued before the Court during its next term.

FEDERAL EMPLOYEE—DEFINITION

Stapleton v. *Macy, et al,* Court of Appeals, D.C., June 28, 1962. In the absence of a statutory definition of "employee," the Civil Service Commission has, for a number of years, used the following test to determine whether an individual is a Federal employee. He is a Federal employee when he:

(1) is appointed or employed by a Federal officer in his official capacity;

(2) is under the supervision or direction of a Federal officer; and

(3) is performing a Federal function.

This test, when applied to plaintiff, resulted in an administrative determination that he was not a Federal employee while employed in the Mississippi vocational training program and thus not entitled to count the service for retirement purposes. The Court upheld the determination, stating, "We think these long-established criteria have a 'reasonable basis in law.'" This is the first Court that has specifically ruled on the Commission's test for Federal employment.

LIFE INSURANCE

Barnes v. *United States,* Court of Appeals, D.C. May 24, 1962; *Kerlin* v. *Metropolitan Life Insurance Co.,* Court of Appeals, 2d Circuit, May 22, 1962. Both cases involved claims for the proceeds of a Federal Employees Group Life Insurance policy by widows whose husbands had been separated from the service and had died after the 31-day grace period without converting to an individual policy. In the Barnes case, the Court rejected a plea that the Government had breached a legal duty when it failed to see to it that the husband exercise his right of conversion to an individual policy after his separation. In the Kerlin case, the Court rejected the argument that the 31-day grace period should begin to run from the last day of the last pay period during which the premium was deducted, pointing out that the language of the statute was unambiguous in fixing the date of separation as the date on which the 31-day period began to run.

APPOINTMENT OF WOMEN

Opinion of the Attorney General, June 14, 1962. The statute in question (5 U.S.C. 33) provides in part that "Women may, in the discretion of the head of any Department, be appointed to any of the clerkships * * *." The phrase "in the discretion of the head of any Department" had been interpreted in the past as vesting exclusive jurisdiction in heads of agencies to determine whether to restrict employment to men or women. The Attorney General was asked whether the statute prohibited the President, or the Commission under authority delegated by the President, from prescribing the conditions under which appointing officers may consider only male or only female candidates for appointment.

The Attorney General answered the question in the negative. He pointed out that R.S. § 1753 and section 2 of the Civil Service Act have been broadly construed as including the power to carry out the spirit as well as the letter of the civil service laws, to supplement the statutory rules by others not specifically covered by statute, and to impose regulations not positively restricted by statute. He could find nothing in the language of 5 U.S.C. 33 and nothing in its legislative history to disclose an intent to limit the authority that the President has under the other statutes mentioned.

SUMMARY OF FISCAL '62

Cases involving adverse personnel actions continued to be the most numerous of the personnel cases decided by the courts last year: 14 out of 30 in the Court of Claims and 24 out of 39 in the district courts and courts of appeal. Reduction-in-force cases were a poor second: 8 in the Court of Claims and 2 in the other courts. Other cases, by subject matter, were: pay matters, 6 in all courts; insurance, 5; retirement, 5; reemployment rights, 3; political activity, 1; and Tort Claims Act, 1. Plaintiffs also continued to enjoy more success in the Court of Claims: 7 out of 30 in that court were successful as against 4 out of 39 in the other courts.

—John J. McCarthy

NEW LOOK—

(continued from page 1.)

example, may need no more than FPM Supplement 831–1, "Retirement," with the basic manual available in case he needs to review Government-wide policies.

Supplements will be provided in eight specialized areas:

—laws, Executive orders, rules, and regulations
—procedural instructions for processing personnel actions
—adverse action law and regulations
—retirement
—group life insurance
—group health benefits
—hours of duty, leave, and pay
—procedural instructions for reviewing medical certificates

REVISING A WORK OF THE MAGNITUDE of the FPM has been no easy task. It has taken detailed plans, much time, and many people. It all began several years ago when the Commission developed a subject-matter classification and numbering system for issuances to agencies and to its own employees. This master plan was explained in detail in Departmental Circular No. 1029, sent to departments and agencies at the end of 1959. Although plans to revise the FPM were discussed at that time, the new method of classifying subjects in the FPM was scheduled to await revisions in Title 5 of the U.S. Code. The waiting period was often bewildering to Commission and agency personnel who had to rock back and forth between parts of the old and parts of the new issuance system. The delay in the revision of Title 5 led to the decision to switch completely to the new system on a crash-project basis.

To staff the top-priority task force, a special Commission-agency team was organized to tackle the major job of revising regulations and instructions. They have already completed most chapters of the new manual, and have sent them out for review and clearance. To change policy was not the purpose of the rewrite, and those involved in the meticulous review process have been admonished to be on the lookout for errors and omissions.

Soon the FPM's new look will become a reality, and it is hoped that a better manual will contribute to more efficient personnel administration in the Federal service. And who knows, perhaps someone will write a new stanza to the fun-poking parody. If so, it could run something like this:

That ole book is superseded
By a new one bright and fine;
There's no error in the grammar
On page L-2489.*
Our new book is reconstructed,
It has clarity and yet
If you still smell musty odors
Then the ink must still be wet.

*This we can guarantee. There is no such page number—in fact, there never was.

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Worth Noting (*Continued*)

TEN FEDERAL AGENCIES are cooperating with CSC in a project to forecast Federal manpower needs in shortage-category occupations. Cooperating agencies include the Departments of Agriculture, Commerce, Air Force, Army, Navy, Health, Education, and Welfare, and Interior, and Federal Aviation Agency, National Aeronautics and Space Administration, and Veterans' Administration. Other agencies may submit special reports on individual problem situations if they desire, but such reports are not mandatory. (See Bulletin 531–1, issued by CSC on July 11, 1962.)

CASH BENEFITS exceeding $550 million have been paid to beneficiaries of more than 100,000 deceased Federal employees or retirees since the Federal Employees' Group Life Insurance program went into operation in August 1954. Of the total paid, $33,718,000 or about six percent was for accidental death and dismemberment claims. The 100,000th claim was paid in May 1962. For FY 1962, claim payments exceeded $100 million, the first year this total had been reached.

NATIONAL SECURITY SEMINARS were held in September for more than 400 civil servants. Sponsored by the Industrial College of the Armed Forces, the two 1-week seminars were opened by CSC Commissioner Frederick J. Lawton and closed by CSC Chairman John W. Macy, Jr. Purpose was to acquaint Federal employees with the interrelated responsibilities of Federal agencies and the civilian economy in national defense.

HIGH HONORS have been earned by these civil servants:

X–15 pilot Joe Walker, who shared this year's Collier trophy with Scott Crossfield of North American Aviation, Air Force Maj. Robert White, and Navy Commander Forrest Peterson. All have flown the experimental rocket aircraft which has reached an altitude of 250,000 feet and a speed of 4,093 mph.

CSC's Deputy Executive Director Nicholas J. Oganovic, who has been named winner of the Public Personnel Award for 1961, awarded by the President's Committee for Employment of the Handicapped.

Retired civil servant John Stack, twice a co-winner of the Collier trophy, who has won the Wright Brothers Memorial trophy. In 34 years of public service he contributed "enduring value to the advancement of all forms of flight," the citation said.

RECENT COMMISSION ISSUANCES: FPM Letter 273–2 of July 19 asks agencies scheduled to be visited by CSC inspectors to notify key officials of employee organizations granted exclusive or formal recognition that the inspectors want to meet with them during the inspection to ascertain their views on personnel policies. This is in keeping with Executive Order 10988. . . . Bulletin 772–1 of August 31 clarifies some portions of FPM Letter 772–1 on Agency Appeals Systems which were not uniformly understood, and which have been the source of repeated inquiries to the Commission.

—Joseph E. Oglesby

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